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Educational News and Editorial Comment

AN ANNUAL CONFERENCE OF STUDENT COUNCILS

Through courtesy of Miss Bertha Rightmire, of the social-science department in Central High School of St. Joseph, Missouri, we are permitted to draw on her account, as an interested observer, of a convention of 257 pupil delegates and 56 faculty sponsors of student councils in 60 high schools distributed to six states of the central region—a convention which was held in her high school last autumn. The tenth annual conference was an outgrowth of a meeting of a small group of pupils and sponsors from eleven high schools of Missouri, Kansas, and Nebraska, who assembled in the same high school in 1928 on the invitation of Miss Louise Barthold, dean of girls of Central High School and sponsor of its student council. The meeting in 1928 was held for the purpose of discussing what was being done in each school in the matter of pupil participation in school government. The permanent organization, effected at that time, planned annual conferences at which there would be open discussion of high-school problems and their possible remedies. Each succeeding year has seen steady growth and a larger number of schools represented, the growth corresponding with the increase in pupil participation in the management of high-school activities throughout the country.

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Last autumn delegates to the conference assembled from Arkansas, Iowa, Kansas, Missouri, Nebraska, and Oklahoma. Colorado, Minnesota, and South Dakota have been represented at one or more previous conferences. Besides the two meetings in St. Joseph, annual meetings have been held in Atchison, Kansas; Omaha, Nebraska; Topeka, Kansas; Des Moines, Iowa; Kansas City, Kansas; Oklahoma City, Oklahoma; Council Bluffs, Iowa; and Sedalia, Missouri. The meeting for the coming autumn is scheduled for Coffeyville, Kansas, with Parsons, Kansas, as alternating host.

Except for a word of welcome from Miss Calla E. Varner, principal of St. Joseph's Central High School, and an address by Principal Fred B. Dixon of the Hickman High School of Columbia, Missouri, all the work of the conference last autumn was in the hands of pupil leaders, with faculty members in the background. Indicative of both the nature of the program and the concerns of the student councils represented are the projects described in two-minute reports on "best projects" by the pupil delegates: (1) eliminating thievery and smoking on school premises; (2) regulating traffic within the building; (3) drilling on the niceties of courtesy; (4) bringing all school activities within the range of all pupils through the sale of activity tickets, which can be "worked out" by pupils lacking funds; (5) arranging social affairs for the entire student body; (6) publishing printed matter to serve pupil needs, such as handbooks, annuals, newspapers, and grammar-review booklets; (7) arranging orientation courses for new pupils; (8) conducting physical-education reviews; (9) holding an annual "candle service" (a Sunday vesper) as a Senior farewell; (10) keeping activity records of pupils over a period of ten years, which are of use to college authorities and prospective employers; (11) providing at nominal cost a dramatic program of eight numbers; (12) conducting a safe-driving course after school hours; (13) improving conditions in the cafeteria; (14) helping to purchase equipment needed for interscholastic sports; and (15) arranging activities for the noon hour so that every pupil has something interesting to do. Other descriptions of student-council projects reported during the sessions referred to responsibilities in connection with Community Chest and other civic drives, purchase of a complete set of caps and gowns, use of school busses in June to take

members of the graduation class on an inspection tour of colleges in nearby territory, and the raising of a convention fund of five hundred dollars.

The program of the conference consisted of general sessions and eight group conferences concerned with special problems, such as the organization of the student council, the social program of the school, the financing of activities, and school and student-council publications. The closing general session included half-hour discussions of the topics "Interpreting the Student Council to the School," "Faculty Leadership in the Council," and "What of the Future?"

Our informant, Miss Rightmire, observes that "the attitude of these student delegates could serve as a shining example to thousands of teachers" attending educational conventions, who arrive late at the sessions, who leave early and while the most important educator on the program has the floor, and "whose convention manners would not be tolerated within their own classrooms."

The record of this Federation of Student Councils of the Central States is significant and inspiring. The array of projects with which the student councils in the individual schools are concerned is reassuring. From time to time letters come to the editor inquiring for suggestions of projects on which to turn the energies of student councils. The illustrative array reported by the delegates to this federation may well serve as a partial check list for persons making such inquiries.

Then and Now with Presidents of Harvard

Regular readers may recall that in 1934 the *School Review* published a highly significant series of articles, by Burrell and Eckelberry, on the high-school controversy in the post-Civil-War period. These investigators established the fact in one of these articles that Charles W. Eliot, famous president of Harvard University and educational leader of his day, was an opponent of the free public high school. At this distance from the post-Civil-War period and with present perspectives in educational matters, the credulity of many might well have been put to test by these authors' assertions, had not they provided full corroboration in unquestioned sources.

What a contrast with Eliot's position is that taken in a recent

address on "Higher Education in a Democracy" by the current incumbent of the presidency of Harvard, James B. Conant! We refer to an address made before a meeting of the American Association of School Administrators at their sessions in Atlantic City some weeks ago—one of the notable addresses of the whole program. We quote what impresses us as the most significant portion but, before doing so, deem it desirable to give the quotation its setting from context. The address, as we understand it, stressed the problem of recruitment of students for education at the university level, which involves chiefly specialization of a professional character. It is President Conant's belief that "there are too many rather than too few students attending the universities of the country." He does not seem to entertain the same belief with respect to education at the college and junior-college level, which he concedes will be increasingly popularized. (We refrain from discussing the differentiation of functions that he would ascribe to the university college and the junior college. Editorial fingers were kept crossed while we listened to presentation of this distinction, as the speaker has had too little contact with the development of the junior college to give him anything more than the restricted conception of its possibilities entertained by many persons connected with highly selective higher institutions.) On the other hand, Conant has no doubt there is a "large untapped reservoir" of promising student material that might well take the place of many now enrolled in the universities, and he is of the opinion that geographic and economic factors prevent utilizing this reserve.

> The opportunities for higher education are very unequally divided in this country between the youths of the large cities and those who dwell in towns or rural communities. Every metropolitan center has one or more large universities, and a professional education in these cities can be obtained at low cost if a boy lives at home. No such privilege is available for the young man in a community beyond the commuting range. This situation has arisen accidentally, but its results are most unfortunate. What is the remedy? To attempt to locate universities at every crossroad? Hardly. By necessity, first-class professional training must be carried on in relatively few centers in the country, perhaps a hundred or so. The advancement of knowledge and university teaching must go hand in hand. A community of scholars must not grow too large; nor can it thrive if too small. Each group must have expensive libraries and laboratories. It is an impossible ideal to imagine a university in every city or large-sized

town. Notice, please, I say university; I am coming to the college problem later. The location of our present universities is already a matter of history, and it is extremely unlikely that these institutions could be moved or new ones founded in sufficient numbers to change the present pattern appreciably for years to come. Therefore there is only one way to provide a university education for the promising youths who are now debarred by economic and geographic factors, and that is by a generous subsidy—by large scholarships or by providing opportunities for earning a sizable amount of money.

It is a strange thing that, in spite of the great need for scholarships in our present educational system, the basic considerations involved in a discussion of this subject are often entirely misunderstood. Now there can be no question that the scholarship system has been gravely abused, but that does not justify a sweeping condemnation of the system. It is a wasteful process to have two colleges or graduate schools bidding against one another for the same boy. Not only is it wasteful of money, but it has a bad influence on the youth concerned. A great deal of this now goes on, we must admit, not only at the college level but in the graduate schools. Conferences between officials of colleges and professional schools, however, can go far in reducing these undesirable practices to a minimum. This is particularly true if the principle is recognized that the amount of financial aid should be determined not by the institution's desire for the particular student, but by the applicant's need as evidenced by the income of his family.

When one considers that probably less than 5 per cent of the families of this country receive an annual income of $5,000 or more, it is quite clear why competition occurs. The boy or girl who does not live at home and who will accept a scholarship of tuition or less must clearly have some resources, or be prepared to earn extra money. Can anyone believe that any large proportion of such youths come from families with a total income as low as $2,000? And yet 80 per cent of the families of the country probably receive no more than this amount. It is perfectly evident to me that at the college level, and at the advanced professional school stage, all the institutions of the country have been fishing in one small pond. They have been concerned, by and large, with a competition for the most promising youths in the income-tax paying group; and at least three-quarters, or more probably 90 per cent, of the youths of the country are not to be found within this class.

A sound scholarship policy, I am convinced, can be established only if one starts with the premise that the stipend will be adjusted to the financial needs of the individual. For the student absolutely devoid of financial resources the award must be large enough to cover all the expenses of an education away from home. To pay this same stipend to a boy whose family can provide a portion of the requisite amount is not only a waste of precious funds but of dubious advantage to the boy. We have worked out in recent years at Harvard College in connection with our newly established "National Scholarships" what we call a "sliding scale." From the study of a great many actual cases we have arrived

at basic data indicating the probable contribution to a boy's education that a family of a certain size with a certain income can afford to make. We have constructed tables which guide us in adjusting the stipend of each successful applicant for this new type of scholarships. For example, we estimate that a family with a total of three or four dependents and an income of $2,000 can hardly be expected to contribute more than one or two hundred dollars a year toward the college education of a promising son. The balance to make up the total amount ($1,000) needed for all expenses of the Freshman year at Harvard we provide. On the other hand, a family with an income of over $5,000 and one or two children should be able to supply almost the total requisite amount.

This point of view favorable to maintenance scholarships at the university level represents an advanced position in respect to policy for an adequate system of higher education in a democracy. We have introduced it as contrasting with that of Eliot's position on free public secondary education, although, to be sure, the contrast is not quite perfect because the two positions pertain to different educational levels. Attention is not directed to the contrast to disparage President Eliot; even if this were the purpose, the effort would be to no avail, in view of the reverence for him owing to his unquestionedly great contributions to American education. Reference is made here to the about-face implicit in the two positions largely because it illustrates admirably a shift in harmony with the social and the economic trends of our times.

A Prophecy Moves toward Fulfilment

In connection with certain inquiries involving examination of reports of city school superintendents, A. P. Gossard, superintendent of schools at Bloomington, Illinois, found the following prophetic statement in the annual report for 1902 on the schools of New York City by Superintendent Maxwell.

Much has been said recently about shortening the college course for the baccalaureate degree from the traditional four years to three years or even to two years. Every close observer of educational history will, I think, agree that this movement is necessary if the college course is to be preserved as a course of higher training lying between the public high school and the university professional school of law or medicine or engineering or theology. Nor, if the public high schools do their duty, will this shortening of the college course result in any lowering of the baccalaureate degree. Every public high school should aim to fit its students not merely to enter in the Freshman year, but to secure advanced standing as far as the beginning or even the close of the Sophomore year

in college. I believe it is a question of only a very short time when the New York City high schools will do all of the work now required in the Freshman and Sophomore years of our great universities. Their graduates should then be permitted to obtain the baccalaureate degree in two years of college study.

The high schools of New York City have not yet been extended as predicted in the statement. Instead, development in that city has been toward establishing four-year municipal colleges. However, all who are in touch with the growth of the junior college know that the prophecy is having its fulfilment in many other cities of the country. Fulfilment is reflected in the rapid growth of junior colleges as reported in a recent issue of the *Junior College Journal*, which finds the number of such institutions to have mounted between 1928 and 1938 from 408 to 553 (many of these institutions being upward extensions of public high schools) and the number of students enrolled to have increased in the same interval from 50,529 to 136,623.

Here and There among the High Schools

The seven items in this month's "Here and There" were reported from seven schools in six states in all sections of the country. They range in scope through a course in geology, the study of news, interpretation of school to community, exchange of teachers between schools for pupil adjustment, a pupils' periodical in the Latin department, an after-school class in social dancing, and a building for arts and industries.

A full-year course in geology.—The current school year has seen the installation in the high school at Albuquerque, New Mexico, of which Glen O. Ream is principal, of a full unit course in geology. The course is given by E. R. Harrington, head of the science department. The course includes such general divisions as astronomy; general, historical, and economic geology; mineralogy; paleontology; sedimentation; physiography; archeology; mining practice; prospecting; and economic and political geography. The course does not presume to achieve for the pupil anything like the mastery of these divisions possible with advanced college students, but it aims to afford a survey of the available fields, to arouse the pupil's interest in obtaining additional information, and to open up to him a field of study which he can pursue with pleasure and profit throughout

life. The course as taught includes laboratory work involving such procedures as testing rocks and minerals, classifying fossils, reading and drawing maps, testing materials, and making field trips.

Mr. Harrington reports that the new course is attracting attention in the city and that enthusiastic co-operation is being given by such institutions as the University of New Mexico near at hand, the United States Soil Conservation Service, the United States Bureau of Mines, and a number of industrial concerns. A large and growing collection of minerals and rocks is being assembled from local and foreign sources, and access is had to an excellent collection of rocks and fossils at the University of New Mexico and to several private collections. Within a radius of twenty miles are formations from the Pre-Cambrian to the present and examples of all common types of erosion excepting glaciation, as well as mountains, volcanoes, lava flows, mines, irrigated regions, and desert.

Higher institutions of New Mexico accept the course as a laboratory course on a par with biology, chemistry, and physics.

The course has a peculiar appropriateness for the region about Albuquerque. As Mr. Harrington puts it, "We can see more geology out of our windows than many colleges can show their students through extensive travel." However, he believes that such a course can be a success in other high schools not so fortunately situated, geologically, as is Albuquerque High School, and he believes also that there is as great justification for it as for courses in biology, chemistry, and physics. He calls attention to the fact that both our basic industries, agriculture and mining, are geological in character.

> Geology determines geography, which in turn determines climate. Thus, the geologic factor tells us where we can live, what we can do, what we can eat, what we must wear, what recreations we can have, and possibly even what color we may be. Geology and the attending geographic factors determine to a large extent our stature, our health, our religion, our morals, and our political views.

The study of news in one high school.—In the *Junior Red Cross Journal* for March, Harvey G. Humann, the superintendent of schools at Barnes, Kansas, describes the method of study of news in the Barnes High School. American affairs and economic problems are given much attention in the class, as well as foreign news. The international events that stood out in last year's study were the

proceedings of the League of Nations, the Spanish civil war and its many-sided complications, the Pan-American conference, the Belgian elections with Belgium's traditional neutrality stand, the struggle for power between civil and military factions in Japan, and the British coronation. In connection with each important event, much attention is given to definite geographic positions and to the personalities and issues involved. It is Superintendent Humann's contention that high-school pupils "do not have to wait until they become of legal age to be effective and active citizens of the world."

Another high school publishes a "News Letter."—John Coulbourn, in charge of secondary education in the public schools of Garden City, New York, has sent us copies of two issues of the *News Letter of the Garden City High School* published during the current academic year as four-page leaflets. One of these discusses "The High School and College Preparation," and the other describes "A Functioning Program of Athletics for Every Boy and Girl." The *News Letter* is one step in a planned program of community-school relationships. Its functions are "to acquaint the parents and patrons with important facts concerning the educational program, to help bring about a more intelligent understanding of the aims and objectives of the school, and to encourage a closer co-operation between home and school." Each issue will be descriptive of an important phase of the school program and will be so arranged as to answer specific questions raised from time to time in the community.

Exchange of teachers to aid in pupil adjustment.—J. M. Deacon, principal of the Morton Junior High School of Lexington, Kentucky, reports the practice of having the teachers of Grades VI and VII exchange places for the period of one week. The practice was instituted because the change of schools in being promoted from Grade VI A to Grade VII B has "upset the progress" of many pupils. It is Principal Deacon's belief that the promoted pupils "feel more at home" when they attend classes of a teacher with whom they have previously worked during the week of the exchange relationship.

Copies of the junior high school's handbook are also presented to the teachers and the pupils of Grade VI A so that pupils may be familiarized with the junior high school before they enter it.

Latin pupils publish a periodical.—From the Heights High School, of Cleveland Heights, Ohio, of which E. E. Morley is principal, have been received several issues of the *Hermes*, published for a number of years by the Latin department of the school. Preparation of materials for the periodical, issued bimonthly, is by pupils in the department, with Miss Ida Julia Bouck as faculty adviser. *Hermes* is a four-page publication containing materials both in Latin and in English. Among captions in English appearing in the issues submitted are "Art Museum Tapestries Tell Tragic Tale of Dido," "*Hermes* Announces Composition Contest," "*Hermes* Receives Hildesheim Vase," "Italian Zoölogist Writes Original 'Foolish Fables,'" "Roman Coins Classified into Three Denominations," and "Horace No Shrinking Violet." Diverse types of content, which should prove interesting to pupils, appear, such as Latin prose, poems, jokes, cross-word puzzles in Latin, and items of literary, historical, and social significance.

An after-school class in social dancing.—The high school at Manchester, Iowa, is this year giving a course in ballroom dancing. Donald F. Howard, principal of the school, reports that pupils interested in taking the instruction bring written permission from parents, and the class meets "once or twice a week after school." The teacher of girls' physical education works with the whole group for a few nights, endeavoring to develop rhythm, general steps, and the like. Later, high-school girls who are good dancers serve as partners for the boys, and vice versa. Principal Howard believes that the class has greatly improved the "all-school" dances and is a distinct success.

A new arts and industries building.—The high school at Oberlin, Ohio, is rounding out its first year of use of an "arts and industries building." The new building, as described by C. F. Alter, principal, provides three types of facilities: (1) adequate manual-arts work, (2) special education, and (3) fine arts and music. Space and facilities are provided for the industrial arts, home economics, graphic arts, and music. In the field of industrial arts, work begins in the planning room, where pupils are guided into the projects they wish to undertake. Pupils working in wood have access to a circular saw, jointer, sander, two lathes, drill press, and two jig saws. The metal-

work includes metallurgy, sheet-metal work, and experiences with art metals. Pupils in electricity have at their disposal a radio, public-address system, and four demonstration panels. Provisions are included for automotive work, molding, ceramics, photographic-development room, band, orchestra, etc.

On Behalf of the No-Failure Program

Persons in touch with trends in schools have noted the rapid movement toward nonfailure of pupils. Sometimes the practice is in accordance with avowed policy in the school; more frequently it seems to be creeping into schools without open acknowledgment or even without awareness of its advent on the part of teacher and administrator. Notwithstanding the inroads on tradition made by the movement, it has been subject to no large amount of published discussion. It is on account of the dearth of such discussion that we quote portions of an article on "The No-Failure Program" written by Professor Frederick J. Weersing, of the University of Southern California, and published in the *Sierra Educational News*. Readers to whom Professor Weersing's reflections are unacceptable should not attempt to displace them with arguments established merely in tradition and prejudice but should be prepared to offset them with better evidence and more cogent considerations.

It is generally agreed today that nonpromotion, or "failure," followed by repetition of a semester or a year's work, or by withdrawal from school, is not usually the best way of dealing with a pupil who is unable or unwilling to do the work of his "grade" in a satisfactory manner. Several studies have shown that "failing" pupils usually gain more in achievement if permitted to go on with their classes.

It has frequently been observed, moreover, that "failure" has a very unhealthy effect on the pupil's mental hygiene, his personal sense of security in the world, and his fundamental social attitudes—all probably more important than the knowledge and skills he has failed to master.

Finally, it has been pointed out that the presence in our society of a considerable percentage of adults who were "failed" in elementary, high school, or college, has had a very adverse effect on the confidence of the public in the school as an agency either for personal development or for social amelioration.

If we believe in universal free education as the means to a better world, then we can hardly afford to jeopardize its support by making the school a thing of unpleasant memory for any considerable proportion of our people.

As a result of considerations such as the foregoing, it is now common practice to resort to "failure" only rarely, if at all, in dealing with backward pupils, especially at the elementary and junior high school levels. In senior high school and junior college the no-failure policy has not so frequently been openly and officially adopted, but its widespread acceptance at the lower levels has already had a clearly observable effect on practice at the upper levels also.

Certain large school systems, such as Los Angeles and St. Louis, and doubtless some others, frankly permit large numbers of pupils to go through high school without attempting to make them conform to the usual requirements for promotion and graduation. It is true that in Los Angeles, for the present, such pupils are not given a diploma of graduation at the end of their high-school careers, but already a high official of our State Department of Education has pointed out that in law there is no justification for withholding a diploma. Within relatively few years, we shall undoubtedly witness the complete collapse of the present units-of-credit basis for high-school graduation as a direct result of the extension of the no-failure policy to upper-grade levels.

The high-school diploma will then represent merely a certificate of exposure to certain organized cultural and social influences, so that proficiency for college entrance or for entrance upon a vocation or for advanced vocational training will have to be attested by other methods, possibly a series of "certificates of proficiency" awarded in addition to a diploma of graduation, or on the basis of comprehensive examinations or a variety of aptitude tests combined with detailed records of the pupil's past interests and activities.

One other outcome of the no-failure policy that lies within the realm of things already accomplished is the clear-cut recognition and acceptance of the proposition that there is no real distinction between elementary and secondary "subjects of study." Even ten years ago we were still at the stage of debating, for example, whether certain forms of arithmetic, and similar elementary "subjects," were acceptable for high-school credit. Today there is universal acceptance of the principle that a child should be taught in high school what he needs to learn, even though that be elementary reading, writing, and arithmetic.

In other words, the high school, as a result of the no-failure program, has been made a continuous part of the educational process begun in the elementary school and is being redesigned to meet the educational needs of all pupils of high-school age, whatever those needs happen to be. High-school teachers can no longer devote themselves to teaching only certain things on a certain level, in the interests of maintaining standards, and blithely "fail" all who do not come up to those standards.

And what goes for the high school goes for the upper elementary grades, especially in certain eight-four systems where it is still the practice to refuse eighth-grade diplomas to many already over-aged pupils who fall far below the average eighth-grade achievement. Even in the junior colleges the necessity is

recognized of accepting certain pupils who are not high-school graduates but who have attained an age at which they will draw more profit from other types of experience in association with students of their own maturity than from persisting in the vain attempt to come up to a certain standard of achievement in required high-school subjects which they will never be able to master.

Apparently, then, we shall have to look forward to an even more extensive application of the no-failure principle throughout the public-school system. . . . .

These and other current trends in secondary and higher education lead to the conclusion that the no-failure program, rightly administered, is a first step in the setting up of a school in which organized educational experiences are adapted to the pupil in place of the former scheme by which all too often the welfare of the pupil was sacrificed to the system.

With respect to junior-college and higher education, the conviction is gradually being reached that sound public policy as well as considerations of democracy demand the provision of some sort of college education for all who demand it. While we have to admit that these developments can occur only as fast as the public is willing to tax itself for them, the opposite point of view, that there is only so much money and no more, is obviously untenable. It is after all a matter of values, a matter of what we wish to spend our money for.

A relatively high level of education has always been a fundamental ideal of democracy.

The Institute for Administrative Officers of Higher Institutions

The Institute for Administrative Officers of Higher Institutions will be held in the Lounge of Judson Court, the University of Chicago, on July 13, 14, and 15, 1938. The central theme of the institute is "The Preparation of College Teachers." Major emphasis will be given to recent changes in the organization and the content of college education and their implications for the preparation of effective college teachers. The papers and the reports will be followed by extended discussion from the floor.

Wednesday Morning, July 13

"Purpose of the Institute," Robert M. Hutchins, President, University of Chicago

"Current Conceptions of College Education and Their Implications for the Preparation of College Teachers"

a) Frederick J. Kelly, Chief of the Division of Higher Education, United States Office of Education

b) Newton Edwards, Professor of Education, University of Chicago

Wednesday Afternoon, July 13

RECENT CHANGES IN THE ORGANIZATION AND CONTENT OF COLLEGE EDUCATION AND THEIR IMPLICATIONS FOR THE PREPARATION OF COLLEGE TEACHERS

"In the Social Sciences," Earl S. Johnson, Assistant Professor of Sociology, University of Chicago

"In the Humanities," Hayward Keniston, Professor of the Spanish Language, University of Chicago

"In the Natural Sciences," Duane Roller, Associate Professor of Physics, Hunter College of the City of New York

Thursday Morning, July 14

THE REQUISITES OF SUCCESSFUL COLLEGE TEACHERS

"From the Administrator's Point of View"

a) Henry M. Wriston, President, Brown University

b) Frank E. Baker, President, State Teachers College, Milwaukee, Wisconsin

c) A. J. Brumbaugh, Professor of Education; Dean of Students in the College and Acting Dean of the College, University of Chicago

Thursday Afternoon, July 14

"From the Point of View of the College Instructor"

a) Joseph J. Schwab, Instructor in Biological Sciences, University of Chicago

b) Reginald J. Stephenson, Instructor in Physics, University of Chicago

c) Harry D. Gideonse, Associate Professor of Economics, University of Chicago

d) James L. Cate, Assistant Professor of History, University of Chicago

"The Recruitment of College Teachers," Paul C. Packer, Dean of the College of Education, State University of Iowa

Friday Morning, July 15

"Current Practice among Institutions in Preparing College Teachers," Homer L. Dodge, Dean of the Graduate School, University of Oklahoma

"The Professional Preparation of College Teachers"

a) Donald P. Cottrell, Associate Professor of Education, Teachers College, Columbia University

b) Edith P. Parker, Assistant Professor of Geography, University of Chicago

Friday Afternoon, July 15

"The Improvement of College Teachers while in Service," Charles E. Friley, President, Iowa State College of Agriculture and Mechanic Arts, Ames, Iowa

Informal reports by members of the conference concerning the methods adopted in their respective institutions.

The University of Chicago extends to administrative officers of all higher institutions, including liberal-arts colleges, universities, teachers' colleges, and junior colleges, a cordial invitation to attend the institute. Arrangements have been made for those who attend to visit classes and to enjoy other University privileges without the payment of fees. Room and board will be provided in the dormitories adjacent to the conference rooms from Wednesday morning, July 13, to Friday evening, July 15, for $9.00. Reservations may be made through William J. Mather, Bursar of the University of Chicago. For additional information address William S. Gray, Department of Education, University of Chicago.

Summer Conference on Reading

One of the new features of the summer-quarter program at the University of Chicago is a Conference on Reading which will be held in the Lounge of Judson Court on June 23, 24, and 25. The central theme of the conference will be "The Improvement of Reading in Elementary and Secondary Schools." Among the major topics to be discussed are: "The Nature and Extent of Reading Problems in American Education," "The Development of Basic Reading Attitudes and Habits," "The Role of Reading in the Various Curriculum Fields and Related Teaching Problems," "Current Issues Relating to Reading Interests and Tastes," "The Challenge of the Poor Reader," "The Relation of Visual Deficiency to Reading Disability," "The Clinical Study and Treatment of Reading-Disability Cases," and "The Value and Limitation of Recently Developed Instruments for Use in Diagnosis and Remedial Treatment." Each of these problems will be introduced by a discussion before all members of the conference. Each general session will be followed by sectional meetings in which problems of special interest at the elementary-school and the secondary-school levels will be considered at length. All papers and reports will be followed by discussion from the floor.

A cordial invitation to attend this conference is extended to school officers and teachers and to all others interested in reading problems in elementary and secondary schools, including junior colleges. Arrangements have been made for those who attend the conference to

visit classes and to enjoy other University privileges during the period of the conference without the payment of fees. Room and board will be provided in the dormitories adjacent to the conference rooms from Thursday morning, June 23, to Saturday evening, June 25, for $9.00, including the banquet on Friday evening. Reservations may be made through William J. Mather, Bursar of the University of Chicago. For additional information address William S. Gray, Department of Education, University of Chicago.

Who's Who in This Issue

O. I. Frederick, associate professor of education at the University of Mississippi. Lucile J. Farquear, graduate student at the University of Mississippi. George W. Rosenlof, professor of secondary education at the University of Nebraska. Harold E. Wise, assistant professor of secondary education and supervisor of science in Teachers College, University of Nebraska. Roy C. Bryan, principal of Western State High School, a unit of Western State Teachers College, Kalamazoo, Michigan. Victor H. Kelley, guidance counselor at Phoenix Union High School, Phoenix, Arizona. J. E. Marshall, principal of Central High School, St. Paul, Minnesota. Frank N. Freeman, professor of educational psychology at the University of Chicago. G. T. Buswell, professor of educational psychology at the University of Chicago. Marion A. Wenger, research associate in education at the University of Chicago.

PROBLEMS OF LIFE. I

O. I. FREDERICK AND LUCILE J. FARQUEAR
University of Mississippi

PURPOSE

The critical period through which our civilization is passing presents to the educator a unique opportunity. Our nation has reached a stage in its industrial development when it might, through intelligently planned action, achieve the most efficient and well-rounded civilization that the world has ever known. Much of the responsibility for achieving a highly efficient civilization rests on the school and its educational program. The school has never faced a greater task than it faces today.

The present school curriculum, however, is not adequate for this task. It has been clinging to old traditions and aims in the face of the stupendous changes which life has undergone. Whether or not all these social changes are desirable and beneficial, they are here and they must be faced as realities, not ignored. Curriculum-making in the United States has always been done in a piecemeal, traditional, and patched-up way. Certain materials of instruction are included simply because they have been taught in the past. Other materials are taught because certain organized groups have, for their own purposes, insisted that these be added to the curriculum.

By such piecemeal, traditional, patchwork methods it is not possible to give to youth an adequate understanding of the twentieth-century, industrial, democratic society in which they live and of the problems which vitally affect their welfare. A curriculum produced by such methods cannot train youth for building our democratic society into the efficient, well-rounded, cultural society that is both possible and necessary. For several years, therefore, educational thinkers have been emphasizing the need for constructing a vitalized curriculum. Much has been written on the subject, various viewpoints being presented and debated, and certain noteworthy at-

tempts have been made to effect a dynamic and a carefully constructed curriculum.

Although they vary in certain phases of their thinking about the curriculum, practically all educators agree that education for efficient and wholesome living is the most important business of our democratic society, that the American school needs a reconstructed curriculum which will train for efficient and wholesome living, and that the basis for that reconstructed curriculum should be the problems of life. The first step, then, in planning the scope of the core curriculum—the curriculum for all—is to ascertain the actual problems of life which children and adults are called on to face either as individuals or as groups. The purpose of this article, therefore, is to contribute a feasible dynamic basis for the core curriculum in secondary schools by making such an analysis of the problems of life in each of the nine major areas of human activity. These nine areas were arrived at as a result of careful research involving a study of thirty-eight classifications of areas of human activity.[1]

PROCEDURE

An analysis was made of ten recent books dealing with contemporary problems of life. These books were chosen for breadth of scope and recency of publication. Five books which were less recent or more limited in scope were also analyzed to round out the investigation in certain particulars. These fifteen books[2] were carefully read, and each problem mentioned or discussed was written down, together with its definite reference.

This large list of problems was then carefully studied, and each problem was placed under the most appropriate of the following nine major areas of human activity: (1) protecting life and health, (2) making a home, (3) conserving and improving material conditions, (4) co-operating in social and civic action, (5) getting a living, (6) securing an education, (7) expressing religious impulses, (8) expressing aesthetic impulses, and (9) engaging in recreation.

Each problem was next checked against the following seven criteria, and only those which met all the criteria were retained.

[1] O. I. Frederick and Lucile J. Farquear, "Areas of Human Activity," *Journal of Educational Research*, XXX (May, 1937), 672–79.

[2] See the bibliography at the end of this article.

1. The problem should be fairly specific, not so general that it covers most of the area of human activity to which it belongs.

2. The problem should be a vital aspect of American life with which most or all children should actually be concerned either while in school or after leaving it.

3. The problem should be concerned with needs and values of the present day. The viewpoint is that historical materials should be drawn on generously to illuminate current problems. Instead of beginning in the remote past, however, and working down to the present, the plan should be to begin with a vital, pressing problem in the immediate present and then go back to the past for information shedding light on the contemporary problem. The problem should be sufficiently dynamic to require knowledge of the present, understanding of the past, and a consideration of the possibilities for the future.

4. The problem should have both personal and social aspects, though the manner in which it is stated may emphasize either aspect.

5. The problem should lend itself to accurate, realistic development.

6. The problem should call for the appropriate use of relevant materials from various fields of knowledge.

7. The problem should be most suitable for use in the core curriculum rather than in the other phases of the curriculum. Consequently special development of skills, electives, and problems belonging primarily to *specialized* school work in college-preparatory, vocational, or creative-arts courses should be omitted.

After being finally selected, the problems were classified as major problems and smaller problems grouped under the major problems. This procedure of classifying, organizing, and stating the problems in final form was carried out by means of checking against the following six criteria.

1. The problems should be stated in the participial form in order to express better the idea of doing something about them, either directly or indirectly.

2. The problems should be worded in neutral, objective fashion so as not to sound prejudiced. (It is, however, almost impossible to word some problems so as not to imply a viewpoint.)

3. The problems should be stated in nontechnical language.

4. The problems, taken as a whole, should represent the work of grades at the secondary-school level.

5. A major problem should be assigned to but one area of human activity. Many problems belong almost equally to two areas. To avoid duplication, these should be assigned to the area more vitally concerned. However, there is, and should be, a decided interrelation between the various areas and between various life-problems.

6. A problem used as a major problem should be a truly major problem, not merely a small problem which should be classified under a major problem.

As a further check on the inclusion of most of the important problems that should form the basis of the core curriculum, 145 recent

textbooks[1] were examined to discover whether important problems had been omitted from the selected list and also to observe to what extent the problems determined on had been considered in recent textbooks. These 145 textbooks were selected for recency of publication, for functional treatment of subject matter, and for representation of various subject fields and various grade levels. As each of the 145 textbooks was examined, all material dealing with problems appearing in the pre-established list was noted. Each new problem encountered was written down; checked against the two sets of criteria; and, if meeting the criteria, was placed in the final outline of problems. A small number of new problems was added in this way.

The problems finally retained have several characteristics to recommend them to curriculum-makers: they have been selected from good recent books on problems of our civilization; they have been checked against carefully devised lists of criteria; they have been stated in participial form as activity problems; they represent problems which require not only knowledge of the present but also understanding of the past and contemplation of the future; and they give a balanced consideration to all major areas of human activity. They probably constitute the only list of problems so far devised that possesses all these characteristics.

The amount of space available for this series of two articles does not permit the presentation of all the smaller problems which were classified under the major problems. In the following pages each of the major problems is grouped under the area of human activity to which it logically belongs. An introductory paragraph showing the general significance of the area precedes each group of problems, and a short descriptive phrase or group of phrases follows each major problem to indicate the more important smaller problems included in the major problem.

PROTECTING LIFE AND HEALTH

Man has always been faced with the necessity of taking active measures for the protection of his life and his health, but the nature

[1] Space does not permit the inclusion of this long list of books in science, social studies, English, health and physical education, home economics, commercial and vocational work, practical arts, and fine arts.

of these measures has changed as man has progressed in civilization. Today the measures for protecting life and health have advanced to a highly scientific and efficient stage. However, in spite of the remarkable advances in medical science and in safety devices, a large proportion of the American people are still suffering from a multitude of preventable defects, diseases, and accidents. Each year, in this country, millions of dollars are needlessly wasted, thousands of human beings are needlessly destroyed, and thousands more are doomed to suffering and disability. The knowledge for preventing this loss is at hand, but it is not being utilized as it should be. People all over the country are complaining of the costs of medical care, and in many sections adequate medical facilities are lacking. How can all these unfortunate conditions be remedied?

These are serious problems which should be solved as quickly as possible by planned intelligent action. Much of this intelligent action must come, in the future, from young Americans now in the public schools. It is most important that these future citizens be guided, not only in the efficient management of their own health problems, but also in knowledge that will enable them to solve successfully the pressing social problems of protecting life and health.

Major Problems

1. *Making the school environment more healthful and safe.*—Becoming interested and intelligent about health examinations; physical training; the provision of proper heating, ventilation, lighting, seating, toilets, cafeterias, etc.

2. *Co-operating with health agencies for a more healthful community.*—Getting acquainted and co-operating with both private and public health agencies and knowing how to utilize these agencies.

3. *Practicing habits of personal hygiene.*—Learning how to build a strong body and actually doing it. This duty involves a great many vitally important problems.

4. *Preventing and controlling disease.*—Crusading against the diseases that are menacing our civilization and emphasizing early diagnosis and preventive treatment of disease.

5. *Protecting life from accidents.*—Forming habits of safety and bridging the gaps between technical inventions and provisions for safety in using them.

6. *Securing and maintaining mental and emotional health.*—Making adjustment to the strain and the high tension of modern life, as well as improving the prevention, care, and treatment of mental illness.

7. *Protecting the physical and mental health of industrial workers.*—Reducing occupational-disease hazards, reducing mental strain of workers, and providing more healthful living conditions.

8. *Protecting the consumer from fraudulent and harmful medical goods and services.*—Making possible a more intelligent use of the medical resources of the nation.

9. *Developing an adequate medical service for all persons at a reasonable cost.*—Dealing with illness on a social rather than a commercial basis, improving the distribution of medical and health services, and deciding on methods of spreading the costs of medical and health services.

10. *Promoting and utilizing medical research.*—Decreasing the lag between progress in medical discovery and the public's utilization of such progress.

11. *Conserving and increasing the racial vitality of the American people.*—Through eugenics and new physiological discoveries, preventing physical and mental degeneracy; extending wholesome environmental influences to all people.

MAKING A HOME

The family is probably the oldest of all social institutions as it is the most important of human institutions. In every age and in every community people have lived together in families with economic, sociological, and biological functions. The new forces of the present industrial civilization, however, have seriously altered these family functions. Some have entirely disappeared. To many observers it seems that the family as an institution is completely disintegrating and will soon disappear. Most sociologists, however, see the family as a fundamentally necessary social institution which must be retained but which needs to be readjusted to the new conditions and new demands made on it. Serious problems are involved. It is essential that the family be adjusted to industrialism, urbanization, new social mobility, to modern trends in housing and in family size, and to all the changing functions of the family. The pupil in the public schools should be helped to understand these facts, should be encouraged to meet them frankly and courageously, and should be aided in planning constructively for the solution of the problems.

Major Problems

1. *Carrying on the socializing functions of the home.*—Working and playing together in the home, developing personality, and transmitting desirable mores and folkways.

2. *Carrying on the consumer-economic functions of the home.*—Purchasing shelter, food, clothing, household equipment, etc., and adjusting family spending to family income.

3. *Carrying on efficient management of the home.*—Keeping all parts of the house and its surroundings clean and efficiently operated. Efficient management involves heating, cooling, and lighting the home; preparing and serving food; making and caring for clothing and furniture; training helpers; and caring for poultry, milk, and garden.

4. *Carrying on the biological functions of the home.*—Choosing a mate, making desirable preparation for marriage, regulating and safeguarding family life, bringing children into the world, and preparing children for maturity.

5. *Adjusting to trends and changes in the home.*—Adjusting to changes in function, to changes in structure, to the changing position of woman, and to the trend toward individualism in the home.

6. *Stabilizing the home.*—Insuring more desirable marriages, checking the rising tide of divorce, and making a success of family relationships.

7. *Extending family boundaries by promoting the child-welfare movement.*—Protecting the child against the invasion of selfish interests and the handicaps imposed by ignorance.

CONSERVING AND IMPROVING MATERIAL CONDITIONS

Some writers regard the whole of history as an attempt on the part of man to control natural phenomena by adjusting himself to his physical environment and by transforming that environment to suit his own needs and aspirations. Man transforms the environment, whereas animals are transformed by it. Certainly man has always wrestled with the problems involved in improving his material conditions. Today, as through all past ages, man is eagerly pushing ahead, trying to outdo what has been done, trying to advance his control over the conditions surrounding him, trying to throw off physical limitations and hindrances, trying to penetrate into more of the secrets of his environment. Much has been accomplished; even more remains to be done. Great problems are waiting to be solved by the oncoming generation through the application of science and technology. It is part of the responsibility of the school to give boys and girls a deep understanding of the physical environment and an enthusiasm for using this knowledge in the solution of vital problems connected with improving material conditions.

Major Problems

1. *Using and controlling fire, heat, and light.*—Putting fire and heat to work for us and changing darkness into light.

2. *Making adjustment to geographic factors.*—Adjusting to and utilizing such factors as weather, air, climate, water, location (geographical situation and topography).

3. *Gaining protection against natural catastrophes.*—Not only making adjustments to protect one's self against such catastrophes as lightning, earthquakes, cyclones, and floods, but also lessening the suffering from such catastrophes.

4. *Improving plant culture.*—Getting better acquainted with plants, conserving plants and trees, and breeding better plants.

5. *Improving animal culture.*—Getting better acquainted with all forms of animal life, improving breeds of animals, preventing animal diseases and accidents, and preserving wild life.

6. *Improving and conserving land.*—Fighting soil erosion and soil depletion, draining swamp land, and irrigating arid land.

7. *Relating the earth to other bodies in the universe.*—Depending on sun, moon, and stars; utilizing knowledge of the nature of the earth and its movements.

8. *Developing and conserving the natural resources within the earth.*—Reconstructing the history of the earth and developing and conserving coal, gas, petroleum, minerals, building stone, sand, acids, bases, and salts.

9. *Making and using machines.*—Freeing the human body from its natural physical limitations by machines and adjusting to the economic and social consequences of machinery.

10. *Developing and using power.*—Freeing the human body from natural energy limitations by use of power and furnishing electric power at reasonable rates to all people.

11. *Creating a new type of physical environment by inventions and adjusting man to it.*—Developing, protecting, and using all desirable inventions; lessening the delay between invention, or discovery, and man's adaptation to it.

12. *Conquering time and space through transportation inventions.*—Improving and co-ordinating the various agencies of transportation and adjusting life to the new mobility created by transportation inventions.

13. *Conquering distance through communication inventions.*—Using, improving, and co-ordinating all the agencies of communication and adjusting life to the shortening of distances.

14. *Organizing and encouraging a balanced program of scientific research in the interests of society as a whole.*—Supporting, encouraging, and utilizing scientific research as well as expeditions of exploration and adventure.

GENERAL COMMENTS

In this article the need for basing the core curriculum on problems of life and the sources and the procedures used in locating and choosing problems of life suitable for the core curriculum of secondary schools have been stated. The significance of three of nine carefully determined major areas of human activity has been described, and major problems and important smaller problems for the same three areas have been presented. The second article will deal similarly

with the other six areas of human activity and discuss briefly desirable ways of using the problems of life in classroom instruction.

BIBLIOGRAPHY

ADAMS, ARTHUR B. *National Economic Security*. Norman, Oklahoma: University of Oklahoma Press, 1936.

BEARD, CHARLES A. (Editor). *Whither Mankind*. New York: Longmans, Green & Co., 1928.

BOSSARD, JAMES H. S. *Social Change and Social Problems*. New York: Harper & Bros., 1934.

CHASE, STUART. *Men and Machines*. New York: Macmillan Co., 1929.

COUNTS, GEORGE S., and OTHERS. *The Social Foundations of Education*. Report of the Commission on the Social Studies of the American Historical Association, Part IX. New York: Charles Scribner's Sons, 1934.

DIEHL, HAROLD S. *Healthful Living*. New York: McGraw-Hill Book Co., Inc., 1935.

FOLSOM, JOSEPH KIRK. *The Family*. New York: John Wiley & Sons, Inc., 1934.

GILLETTE, JOHN MORRIS, and REINHARDT, JAMES M. *Current Social Problems*. New York: American Book Co., 1933.

GILLIN, JOHN LEWIS; DITTMER, CLARENCE G.; and COLBERT, ROY J. *Social Problems*. New York: D. Appleton–Century Co., 1932 (revised).

MOULTON, HAROLD G. "The Trouble with Capitalism Is the Capitalists," *Fortune*, XII (November, 1935), 77–81. (A summary of the investigations recently published, in four volumes, by the Brookings Institution of Washington.)

OSBORN, LORAN D., and NEUMEYER, MARTIN H. *The Community and Society*. New York: American Book Co., 1933.

O'SHEA, M. V. (Editor). *The Child: His Nature and His Needs*, chap. xx. Valparaiso, Indiana: Children's Foundation, 1924.

Recent Social Trends in the United States. Report of the President's Research Committee on Social Trends. New York: McGraw-Hill Book Co., Inc., 1933.

SCHORLING, RALEIGH, and MCCLUSKY, HOWARD Y. *Education and Social Trends*. Yonkers-on-Hudson, New York: World Book Co., 1936.

WITHERS, WILLIAM, with the collaboration of AGNES SNYDER and CARLTON QUALEY. *Current Social Problems*. New York: Prentice-Hall, Inc., 1936.

[*To be concluded*]

EXPERIMENTING WITH A COURSE IN COMBINED PHYSICAL SCIENCE

GEORGE W. ROSENLOF AND HAROLD E. WISE
University of Nebraska

Four research studies in the field of science education at the secondary level have been completed during the past few years in the Department of Secondary Education of the University of Nebraska. In this article a review of the first two is made, a review of the remaining two being left to a future time. The two studies here considered really constitute a single unified investigation since the second study was based on the findings of the first and represents a continued evaluation of a common problem. The studies to be reported at a later date supplement the first two in that each undertakes the solution of a distinct phase of a general problem, the solution of which is essential if the results obtained from the first two studies are to modify in any constructive way the science curriculum of the secondary schools.

THE FIRST STUDY

Developing an integrated course in science.—During the past decade increasing attention has been given to the general topic of correlation and integration, both throughout the entire curriculum and within each subject-matter area. In the field of science education individual educators and major committees of authorities have recommended the development of an integrated program of science instruction extending from the first to the twelfth years of the public-school system. In the belief that such integration and correlation of subject matter in the sciences should be further extended into the senior high school, there was undertaken in the Teachers College of the University of Nebraska the development of a course which would represent an integration of certain selected portions of the traditional courses in physics and chemistry. This research was undertaken in

the autumn of 1934 by the junior author of this report, under the joint direction of the senior author and of Professor P. G. Johnson, now of Cornell University, and was completed in the spring of 1935.

The course tentatively organized did not purport to cover the entire fields of chemistry and physics to the same extent as these were, or are now, covered by the separate courses in those subjects. Rather it sought to develop a basic one-year course in integrated physical science which might later be used either as a foundation for a second-year course of a similar nature or as a course in the consumer type of physical science and which, with the present course in biology, should provide a well-rounded science program for the secondary-school pupil who has no intention of becoming, in any sense, a producing scientist.

In keeping with the present trend with respect to the organization of subject matter in science and for the purpose of facilitating integration, it was decided to organize the course into units of the Morrison type. Furthermore, in accordance with the recommendation of Morrison concerning senior high school science, an attempt was made to organize the course into units which are significant aspects of science rather than significant aspects of the environment. It was felt that a knowledge of such aspects of the environment should be considered as applications of the general understandings of physical science and not as basic criteria for organization.

Steps of unit organization.—In the perfecting of the unit organization four distinct steps were provided for.

1. There were set up a list of major generalizations from the field of physics and another list from the field of chemistry. The generalizations in each case were representative of the fundamental topics of the traditional courses in each field.

2. The next step was to combine or integrate those major generalizations of the separate fields into a single list representing the major generalizations of a physical-science field. For this purpose a list of broader generalizations was set up, each of which included one or more of the major generalizations from each of the specialized fields. The result was a list of ten major generalizations which was to serve as the nucleus of the integrated physical-science course. These, when stated in problem form, became the unit problems

about which the subject matter was organized. The problems were as follows:

(1) What is matter, and how is it affected by chemical and physical forces?

(2) How do fluids respond when chemical and physical forces are made to act on them?

(3) How do scientists represent chemical and physical changes?

(4) What is heat, and how does heat contribute to physical and chemical changes?

(5) What are acids, bases, and salts, and how do they behave in solution?

(6) What is the nature of metals, and how are metals used in doing work?

(7) How may electricity be produced, and what are the physical and chemical effects of an electric current?

(8) What are the physical and chemical natures of nonmetals?

(9) What is the nature of light, and how is light affected by the media which it encounters?

(10) What is the nature of sound, and what are the effects of sound energy?

3. In the third step, analysis of the unit problems, each major problem was broken up into more specific subproblems, many of which were in turn subdivided into still more specific subproblems. This division was desirable on the ground that it provided for detailed understandings which would contribute to a broader understanding. This process of analysis resulted in a different type of subdivision for practically each of the ten unit problems, since the type of subdivision depended on the nature and the complexity of the original problem. The division was continued in each instance until the final subdivisions represented phases of the unit problem, a mastery of each of which would require about two to four days of classroom study. These specific problems thus became the teaching problems.

4. The fourth step consisted in the further analysis of each teaching problem for the purpose of indicating related ideas. This step involved the selection and organization about each teaching problem of portions from the subject matter of physics and chemistry which would, through their classroom development, enable the pupil to arrive at a generalization or a major understanding constituting the answer to the teaching problem.

The organization of material which was perfected was in no sense considered to be final. It was obvious, however, that there must be

an organization of subject matter before specific plans for teaching could be set up and before the actual experimental teaching of the course could be started.

Teaching materials.—Since no textbooks were available which could be considered at all suitable to meet the needs of the course, it was found necessary to make a compilation of "teaching aids" offering practical suggestions of helpful teacher and pupil activities through the utilization of which the objectives of the course might be realized. This compilation was essential before classroom teaching could begin. An analysis of teaching procedures and of numerous textbooks, workbooks, and courses of study disclosed that certain types of teacher and pupil activities are generally considered to be necessary for the effective development of a teaching problem in the science classroom irrespective of the plan of teaching. The curricular materials considered most usable were classified as follows: (1) recall questions—questions by means of which the teacher could motivate the solving of the problem and the discussion of which would tend to correlate the problem to be studied with the actual life-experiences of the pupils; (2) demonstrations—including not only experimental demonstrations but models, charts, film strips, slides, motion pictures, and other types of visual materials; (3) individual pupil activities—references to a variety of textbooks, supplemental references, individual experiments, study questions, etc.; (4) application questions—questions requiring the application of the specific understanding developed; and (5) optional activities—a variety of types of activities to appeal to a wide range of individual interests.

Through a detailed analysis of available teaching materials, carefully checked in the light of several years of experience in classroom situations, a compilation of such curricular materials, or "teaching aids," was effected for each teaching problem of the first four units of the course. Subsequently, during the school year 1935–36, with the help of graduate students, this compilation was extended to include "teaching aids" for all the fifty-three teaching problems of the integrated course.

Tryout of the course.—During the year 1935–36 the course as organized was tried out in the classrooms of the Teachers College High School of the University of Nebraska with a class of eighteen pupils,

who in every way represented a cross-section of the total high-school enrolment. The work of this class, supervised by the junior author, was under the immediate direction of Wilfred G. Slayton. While working with this group, Mr. Slayton was also engaged in laying the foundation and, together with the authors, in working out the details for a more extensive testing of the integrated course in selected public high schools of Nebraska. The details of this testing program, now complete, are reported below.

THE SECOND STUDY

Evaluation necessary.—Regardless of the apparent agreement of authorities in the field of science education concerning the desirability of an integrated science program for the senior high school, it will be necessary, before such a program can hope to displace the present curricular offering, to prove, by the employment of such testing instruments as are available, that the new program offers opportunity to attain the objectives of science instruction more nearly than does the traditional offering. Although such proof must eventually be available in terms not only of knowledge but also of mental skill and desirable attitudes, it seems proper to suppose, in the light of existing conditions, that the integrated program will first have to justify itself in terms of its efficiency in leading to the development of the understandings of science. It was with this fact in mind that the study herein reported was undertaken by Mr. Slayton.

The study concerns the evaluation of the course in integrated physical science previously described and seeks to make the following comparisons: How does the apparent achievement of pupils in courses in physical science compare with their achievement in courses in physics and chemistry when comparisons are made (1) of pupils with equivalent intelligence quotients, (2) of pupils with equivalent previous scientific knowledge, and (3) of pupils with equivalent ability to do scientific thinking?

Procedure of evaluation.—The following technique was used by Mr. Slayton in making this study.

1. The course in physical science was taught by Mr. Slayton and other student teachers during the school year 1935–36 in the Teachers College High School of the University of Nebraska. They did

this teaching in order to achieve familiarity with the aims and objectives, the organization, and the methods of instruction followed by the course.

2. A comprehensive physical-science examination was built by item analysis of the integrated course of study. This test was given to physical-science pupils in the Teachers College High School at the close of the school year 1935–36. The test was revised on the basis of this preliminary testing.

TABLE 1

NUMBER OF PUPILS ENROLLED IN SCHOOL AND NUMBER ENROLLED IN EXPERIMENT IN SEVEN SCHOOLS

School	Enrolment of School	Enrolment in Experiment at Start	Enrolment in Experiment at End*			
			Chemistry	Physical Science	Physics	Total
A	313	23	.....	16	.....	16
B	126	13	.....	13	.....	13
C	756	61	12	20	13	45
D	472	91	24	14	30	68
E	337	54	22	23	.....	45
F	480	39	17	13	.....	30
G	65	16	.....	16	.....	16
Total	2,549	297	75	115	43	233

* The discrepancy in enrolment at the beginning and at the end of the experiment resulted from the facts that pupils dropped out of school, some were lost by graduation in February, and others failed to take the final tests at the end of the experiment.

3. Arrangements were made for the physical-science course to be offered in seven of the larger high schools in Nebraska during the school year 1936–37. The intention was to select these schools so that physics, chemistry, and physical-science classes would be taught by the same teacher in each school. In two of the schools, however, it was possible to offer only chemistry and physical science under the same teacher. The three smaller schools were able to offer only physical science, and data from these schools were used only to supplement the evidence which was available from the other schools included in the investigation. Data concerning co-operating schools are summarized in Table 1.

4. The Department of Secondary Education of the University of Nebraska furnished the integrated course of study, specific teaching

aids, and full instructions for the testing program and the teaching of physical science to each of the co-operating schools.

5. At the beginning of the school year 1936–37 the following examinations were given to each pupil beginning the study of physical science, physics, or chemistry in the co-operating schools: (*a*) Otis Self-administering Tests of Mental Ability, Higher Examination, Form A; (*b*) "What Do You Think?" by Victor H. Noll (the last question in this test of scientific thinking was omitted for lack of satisfactory means of scoring); and (*c*) the comprehensive physical-science test devised for this study.

6. Whenever possible, each pupil in the physical-science class was paired with a pupil in physics and a pupil in chemistry of equal ability in science as measured by the comprehensive physical-science test. In each case these three pupils were in the same school and working under the same teacher. In schools offering only physical science and chemistry, pupils taking physical science were paired with pupils taking chemistry. Likewise, in a few cases it was possible to pair pupils in physical science with those in physics classes.

7. The same procedure of pairing was repeated using as a basis intelligence quotients secured on the Otis test.

8. The same procedure of pairing was repeated on the basis of the Noll test scores.

9. At the close of the school year in the spring of 1937 the following examinations were given: (*a*) The comprehensive physical-science test (identical with the test given at the beginning of the school year) was given to each pupil regardless of whether he was completing a course in physical science, chemistry, or physics. (*b*) The Cooperative Physics Test, Form N (1937), was given to pupils completing a course either in physical science or in physics. (*c*) The Cooperative Chemistry Test, Form N (1937), was given to pupils completing either a physical-science or a chemistry course.

For the purpose of providing comparable data for evaluation, as many of the pupils as possible within each co-operating school were paired. These pairings were made on three bases: (*a*) intelligence quotients, (*b*) Noll scientific-thinking test scores, and (*c*) comprehensive physical-science test scores. Some of these pairings included one pupil in physical science, one pupil in chemistry, and one in physics.

Others included one pupil in physics and one pupil in physical science, while the remaining pairings included one pupil in chemistry and one pupil in physical science. For statistical purposes it was found convenient to compare the achievement of pupils in physical science first with pupils in chemistry and then with pupils in physics. Hence no groupings involving three pupils were treated statistically.

In the analysis of experimental data it was evident that actual gains on the comprehensive physical-science test might be compared directly since the test was so constructed as adequately to measure progress during a year of either physics, chemistry, or integrated physical science. However, in case of the Cooperative Test scores it was apparent that allowance must be made for the fact that the pupil in physical science had had only one year in which to acquire the facts revealed by both the Cooperative Tests. The pupil in physics, on the other hand, had had approximately twice the time allowance for the study of the subject matter in physics as had the pupil in physical science. Likewise, the pupil taking chemistry had had about twice as much time to devote to the study of chemistry as had the pupil in physical science.

Since physical science is a one-year course combining features found in two separate one-year courses, it might, at first thought, seem reasonable, before comparisons are made, to double the scores made on the Cooperative Tests by the pupils in physical science. However, the final score made by a pupil on an achievement test represents not only the information gained in the course but may include information possessed by the pupil prior to his year's study. If a Cooperative Test score is doubled for statistical purposes, the portion of the score representing initial knowledge is doubled as well as that portion of the score representing increase in knowledge. Hence it became necessary to arrive at a formula that would include the initial facts known by the pupil and also twice the information gained by the pupil in the physical-science course.

Since the comprehensive physical-science test had been administered to all pupils at the beginning of the experiment, the scores obtained in this test afforded an indirect means for determining the initial knowledge of each physical-science pupil. Presumably these tests include about half physics and half chemistry. A check of orig-

inal scores made by pupils in physical science verified this presumption and demonstrated further that, in general, each pupil possessed at the start approximately an equal number of facts in chemistry and in physics. By calculation of the percentage that the 1936 score was of the 1937 score on this test, a ratio of the approximate scientific knowledge in the fields of physics and chemistry at the beginning of the year to the knowledge at the end of the year was secured for each paired physical-science pupil. Thus it was possible to apply the same ratio to his scores on the 1937 Cooperative Physics Test and the 1937 Cooperative Chemistry Test and arrive at values which would represent, respectively, the theoretical scores that he would have made at the beginning of the year on a 1936 physics test and on a 1936 chemistry test. If this theoretical initial score in either case be represented by X and the actual 1937 raw score on either the chemistry or the physics test by S, then $S - X = S'$, S' representing the adjusted score of a physical-science pupil which may be compared to the score made by a pupil who took chemistry or physics and who was paired with him.

Results of evaluation.—A summary of the experimental data is presented in Table 2. It will be noted that, when the comparison is in terms of scores made on the comprehensive physical-science test, actual gains have been compared. On the other hand, in all cases involving Cooperative Test scores, the actual raw scores of physics and chemistry pupils have been compared with the adjusted scores of their paired physical-science mates.

The following conclusions drawn by Mr. Slayton seem to be valid in the light of data presented in the study.

1. Physical science is probably more effective than is either chemistry or physics in teaching scientific facts and information to pupils of equal native ability as measured by an acceptable intelligence test.

2. In the case of pupils with equal ability for doing scientific thinking as measured by the Noll test, physical science is more effective than is either chemistry or physics when the increase in scores made on the physical-science test is used as the basis of comparison. However, when scores made on the chemistry test are compared, the experimental results favor chemistry.

3. The ability to do scientific thinking is more important in the case of chemistry than in the case of physical science. There is an indication that this ability is also of particular importance in physics.

4. Physical science is more effective than is physics but somewhat less effective than is chemistry in teaching scientific facts and information to pupils with equal original scientific knowledge as measured by an objective physical-science test.

5. The fact that the showing made by physical-science pupils on the physics test is superior to that made on the chemistry test would seem to indicate that the present course of study in integrated physical science contains a relatively higher proportion of facts from physics than from chemistry.

TABLE 2

SUMMARY OF EXPERIMENTAL DATA

Classes in Physical Science Compared with Classes in—	Basis of Pairing	Number of Pairs	Basis of Comparison	Mean Gain or Score			Course Excelling	Chances in 100 that True Difference Is Greater than Zero
				Chemistry	Physics	Physical Science		
1. Chemistry	Intelligence quotient	41	Science-test increase	32.61*	.....	57.85*	Physical science	100
2. Physics	Intelligence quotient	16	Science-test increase	.....	18.25*	47.38*	Physical science	100
3. Chemistry	Intelligence quotient	45	Chemistry-test raw score	25.56†	.....	27.06†	Physical science‡	67.4
4. Physics	Intelligence quotient	16	Physics-test raw score	.....	21.69†	35.52†	Physical science	99.8
5. Chemistry	Noll test	27	Science-test increase	32.52*	.....	55.00*	Physical science	100
6. Physics	Noll test	13	Science-test increase	.....	17.77*	51.00*	Physical science	100
7. Chemistry	Noll test	28	Chemistry-test raw score	32.07†	.....	20.25†	Chemistry	99.7
8. Physics	Noll test	13	Physics-test raw score	.....	33.46†	36.04†	Physical science‡	66.3
9. Chemistry	Science test	25	Science-test increase	41.68*	.....	48.44*	Physical science‡	84.6
10. Physics	Science test	17	Science-test increase	.....	24.53*	51.18*	Physical science	100
11. Chemistry	Science test	27	Chemistry-test raw score	28.11†	.....	21.22†	Chemistry‡	95.4
12. Physics	Science test	15	Physics-test raw score	.....	26.07†	39.40†	Physical science	99.9

* The mean difference between scores on science test at end of school year and scores at beginning of school year 1936–37.

† The mean actual raw score on physics or chemistry test in case of physics or chemistry pupils, respectively; the mean adjusted raw score in case of physical-science pupils.

‡ A comparison marked with a double dagger is one which has given an indication that the course so designated excels, although, statistically, the chances are not sufficiently high to warrant a definite statement to that effect.

SUMMARY

If the recommendation of authorities in the field of science instruction, looking toward the development of an integrated science program for the first twelve years of general education, is to be realized in the public schools of today, it will be a practical necessity for each step of the integrated program to justify itself by proving its efficiency compared with the traditional program. Eventually such proof must be available not only in terms of factual knowledge gained but also in terms of the perhaps more desirable concomitant learnings, involving mental skills and attitudes. The study herein reported makes no attempt to evaluate the results of the integrated course in any other terms than factual knowledge. Moreover, it is conceded that in all probability the achievement tests employed in the evaluation place major emphasis on scientific facts rather than on understandings, ability to generalize from specific data, ability to apply conclusions to new situations, etc.

However, the authors of this report are of the opinion that the studies herein reported justify the general conclusion, not only that a fusion of the traditional fields of physics and chemistry is possible, but that the resulting integrated course is as efficient, per unit of time spent in classroom study, in teaching the facts of science as is either of the specialized courses from which its subject matter has been selected. Thus it seems that the first step toward establishing the integrated course in the program of general education has been taken. Further appraisal of the value of the integrated course in terms of the more intricate understandings of science and of desirable nonfactual outcomes should follow.

PUPIL RATINGS OF SECONDARY-SCHOOL TEACHERS

ROY C. BRYAN
Western State High School, Kalamazoo, Michigan

The proposal that pupils be called on to rate teachers has elicited a great variety of reactions from educators and laymen. Some think that the proposal is not worth serious consideration. At the other end of the scale are persons who express opinions similar to the following:

> I would suggest that the pupils be encouraged to make monthly reports on the teacher. . . . . It is possible that these nuggets [suggestions from pupils] would be disconcerting and that they would infuriate a certain sort of teacher. That sort, however, is the kind which has no business to be teaching, and the quicker it is found out the better. Places now occupied by this sort could be filled by the type that is willing to learn as well as teach.[1]

Among the claims that have been seriously advanced in support of pupil rating of teachers are these:

1. The learner's attitude in any teaching situation is so important that some systematic effort should be made to measure it. The significant improvements in pupil reactions—improvements in pupil liking and respect for teachers, subjects, and methods—which ratings assist in producing would bring improved opportunities for the accomplishment of both the immediate and the indirect objectives of learning.

2. Ratings often emphasize the need for improvement and point out specific goals for improvement and thus help teachers to eliminate unsuspected factors that are blocking effectiveness; help to eliminate factors that are a source of unfavorable gossip which hurts the reputations of teachers, not only with pupils, but also with parents, other teachers, and even administrators; and serve as an antidote against the Olympian habit of mind that "talks down" to

[1] Howard Vincent O'Brien, "All Things Considered," *Chicago Daily News*, CVI (May 4, 1936), 12. (Quoted in *Education Digest*, II [September, 1936], 32–33.)

pupils with an attitude of finality and erroneously attributes all lack of interest and effort on the part of pupils to the pupils themselves.

3. The general use of a pupil-rating plan in an institution leads to an increase in interest in teaching problems on the part of the instructional staff as a whole.

4. Pupil ratings are an index to teacher effectiveness, since a teacher has a good influence on pupils in proportion to the amount of respect and admiration that pupils have for the teacher.

5. Democracy can exist only when its citizens are critical. One of the chief aims of education is to teach pupils to analyze and to evaluate data, arguments, and assertions before arriving at conclusions. The atmosphere of the classroom is not entirely favorable to the accomplishment of this aim if the teacher refuses to allow pupils to raise questions concerning teaching procedures, teacher performance, and course content.

The published studies in the field of pupil ratings reveal that pupils can give reliable ratings of teachers; that such factors as difficulty of assignments, nature of subject, and marks have little influence on ratings; and that a number of teachers who have tried the plan have found the procedure helpful. To date no investigator has published the results of research which discredit the claims of the proponents of pupil ratings.

To what extent can pupil ratings be used with profit by secondary-school teachers? What effect do ratings have on the attitudes of pupils and teachers? To what extent are the results influenced by the procedures used when obtaining the ratings? The remaining part of this article is a report on an experiment conducted by the writer in an effort to obtain some information concerning the answers to these questions.

THE PROCEDURE

Forty teachers in a junior high school near Cincinnati, Ohio, received an invitation from the office to be rated by pupils at the end of the two semesters in the school year. Twenty-nine teachers signified their willingness to be rated and have the resulting data compiled at the office. The rating instrument used contained nine questions relating to (1) knowledge of subject, (2) ability to explain clearly, (3) fairness in marking, (4) discipline, (5) sympathy, (6)

amount of work that the teacher does, (7) ability to make classes interesting, (8) value of subject, and (9) general teaching ability. Each of these items was listed in question form and was accompanied by a scale of five steps: superior, high average, average, low average, and inferior. Each of the five steps of the scale accompanying each of the nine questions was defined in descriptive phrases. The rating instrument contained the request that pupils make comments concerning anything not covered by the nine items that they especially liked or disliked about the teacher. Each teacher was rated by three different classes on the same day at the end of both the first and the second semesters, that is, in December and June. No teacher was present in his classroom when the ratings were obtained. The average ratings for each teacher were obtained by adding the ratings by all pupils on each item and dividing by the number of pupils.

IMPROVEMENT REVEALED BY RATINGS

How many of the teachers who participated in this study received June ratings that were significantly higher than the December ratings? The differences between the June and the December average ratings were determined as a first step toward obtaining an answer to this question. The 29 teachers received 261 pairs of averages on the 9 items, one pair of averages being the June and the December average ratings on one item. The differences for the 261 pairs of averages are shown in Table 1.

The average ratings of six teachers whose June and December ratings differed by at least six points on one or more items are shown in Table 2. The significance of the differences reported in this table cannot be statistically shown because the distribution of each teacher's ratings was returned to the teacher before a duplicate copy was made. However, it was found in another study[1] involving similar data[2] that most differences of five points are statistically significant. Therefore, it is probably a safe assumption that all differences of

[1] Roy C. Bryan, *Pupil Rating of Secondary School Teachers*, chap. v. Teachers College Contributions to Education, No. 708. New York: Teachers College, Columbia University, 1937.

[2] The reliability of the average ratings by thirty pupils for the nine items in the rating instrument of the present study range from .87 (standard deviation, .05) to .94 (standard deviation, .02) except Item 8 (value of subject), which produced a reliability coefficient of .83 (standard deviation, .06).

six or more points, which are those reported in Table 2, are statistically significant, that is, could not be the result of pure chance. This conclusion is supported by the analyses of the cases which follow. It is also probable that most of the differences of five points and even some of the differences of four points are statistically significant. However, this discussion will be confined to teachers who received differences of six or more points.

TABLE 1

NUMBER AND PERCENTAGE OF ITEMS SHOWING DIFFERENCE BETWEEN DECEMBER AND JUNE RATINGS OF TEACHERS MADE BY PUPILS

DIFFERENCE BETWEEN DECEMBER AND JUNE AVERAGE RATINGS	ITEMS SHOWING DIFFERENCE	
	Number	Per Cent
0	48	18.4
1	86	33.0
2	45	17.2
3	38	14.6
4	15	5.7
5	15	5.7
6	8	3.1
7	3	1.1
8	2	0.8
9	1	0.4
Total	261	100.0

Teacher A received the lowest December rating on fairness in marking. Comments made by a number of the pupils, in response to the section of the rating instrument asking pupils to comment favorably and unfavorably, reflected the same complaint in specific statements. Critical statements were made on this item in the rating sheets of only one other teacher among the twenty-nine. When the second rating was made, Teacher A received no critical comments about fairness in marking and received a rating on this item eight points higher. It seems evident that this teacher eliminated the source of unfavorable reactions concerning his marking practices.

Teacher B received the lowest rating on discipline—with the exception of the rating on value of the subject, on which the school median was lowest. Teacher B made this comment at the office

concerning the low rating on discipline, "I have given my pupils a great deal of freedom, but, since they rated me so low on that item, there is going to be stricter discipline in my room this semester." In view of the six-point improvement in the rating on this item at

TABLE 2

AVERAGE RATINGS GIVEN BY PUPILS TO SIX TEACHERS WHOSE DECEMBER AND JUNE RATINGS DIFFERED BY AT LEAST SIX POINTS ON ONE OR MORE ITEMS*

ITEM RATED	RATING GIVEN TEACHER					
	A	B	C	D	E	F
Knowledge of subject:						
December	93	96	96	89	97	97
June	93	99	97	94	99	92
Ability to explain clearly:						
December	92	94	96	85	95	*92*
June	92	96	99	90	98	*86*
Fairness in marking:						
December	*84*	95	95	87	94	*91*
June	*92*	96	97	89	97	*85*
Discipline:						
December	91	*88*	97	82	*91*	85
June	91	*94*	97	87	*98*	80
Sympathy:						
December	94	92	*92*	*76*	95	*88*
June	95	94	*98*	*85*	98	*82*
Amount of work teacher does:						
December	89	93	95	*85*	*91*	92
June	93	94	95	*91*	*97*	87
Ability to make classes interesting:						
December	91	93	94	*83*	92	90
June	92	96	96	*90*	97	85
Value of subject:						
December	88	86	89	78	*91*	*83*
June	85	86	92	81	*97*	*76*
General teaching ability:						
December	88	94	93	*81*	95	90
June	89	96	97	*89*	98	85

*These numerical averages were obtained by assigning the following values to the five steps of the rating scale: superior, 100; high average, 90; average, 80; low average, 70; and inferior, 60.

the end of the next semester, it appears that the pupils thought that there was an improvement in the discipline of this teacher's classes.

Teacher D received his lowest rating on sympathy, and nearly all pupils wrote unfavorable comments concerning this teacher's violent temper. The teacher said that he realized this weakness but that he did not suspect so much resentment on the part of pupils. Just before the second rating was made, he stated that he deserved a better rating because he had taken care to avoid the behavior which had been so severely criticized by his pupils. The second rating on this item was nine points higher than the first. Some of the written comments referred to the great improvement made by the teacher on this item.

Teacher F received a much poorer rating in June than in December. This beginning teacher, in his first year of teaching experience, had several conferences with a supervisor concerning the ratings and concerning office observations of unsatisfactory conditions. The difficulty seemed to be caused by a superiority complex and a lack of firmness and consistency. It may be that the second rating helped to deflate the superiority complex and made this inexperienced teacher realize the need for getting suggestions from every possible source.

The writer received no comments from Teachers C and E concerning their improved ratings.

This comparison of June and December ratings indicates that ratings can be used to improve pupil-teacher relationships. On the other hand, the case of Teacher F seems to indicate that a teacher's reputation in the minds of pupils can be further harmed unless efforts at improvement are planned on a sound psychological basis and are consistently pursued. Some of the factors that may have prevented other teachers from receiving significantly higher ratings are: (1) prejudice against ratings (this point will be discussed in more detail below); (2) the fact that some teachers received ratings so high that there was little room for improvement; (3) the fact that some of the teachers who did not receive ratings as high as those desired, received about the same ratings on all items and, therefore, received no definite suggestions for improvement; and (4) the possibility that one semester may be too short a period to allow certain

teachers to produce marked improvement. Perhaps it would be easier for teachers to receive a higher rating from new classes than to receive an improved rating from old classes.

An examination of Table 2 in the light of the discussion of the ratings of these six teachers reveals the influence of "halo effect" or "general estimate." It will be noted that the ratings of five of the teachers improved to varying degrees on nearly all items, while the ratings of one teacher fell on all items. It is almost a certainty that these teachers did not actually deserve a changed rating on nearly *all* items. The explanation seems to be that improvement on one or two items improved the general estimate of the teacher in the minds of pupils and the general estimate in turn influenced higher ratings (or lower ratings in the case of Teacher F) on all or nearly all items. For example, Teacher D concentrated on improving his rating on sympathy. Even though no improvement may have been made on the other items, the increased respect developed for that teacher by the pupils influenced them to give higher ratings on all other items. It follows that most teachers who are rated low on all items receive lower ratings than deserved on some items.

ATTITUDES OF TEACHERS AND PUPILS TOWARD RATINGS

The attitudes of teachers and pupils toward ratings are factors of great importance. It is unlikely that any teacher who is antagonistic to being rated by pupils would benefit from the ratings. On the other hand, if giving ratings influences pupils unfavorably, by making them more critical of teachers or by giving them the impression that they are the judges of teacher merit, the ratings could possibly do more harm than good.

After the results of the second rating were made known to the teachers, a bulletin containing a number of questions about their attitudes toward ratings was given to the teachers with the suggestion that they check the answers and return them to the office if they had time and cared to do so. Twenty of the twenty-nine teachers who were rated twice reported. The questions and the replies are shown in Table 3. With reference to Question 1, it was the opinion of those in charge of office discipline cases that ratings had no effect on discipline. So far as the writer was able to determine

TABLE 3

REPLIES TO QUESTIONNAIRE ON ATTITUDE TOWARD PUPIL RATING RECEIVED FROM TWENTY TEACHERS RATED IN DECEMBER AND JUNE

QUESTION AND ANSWER	FREQUENCY OF REPLY	
	Number	Per Cent
1. What effect did the ratings have on the discipline of the school?		
a) Discipline improved	0	0
b) Discipline became more lax	4	20
c) Ratings did not affect discipline	12	60
d) No opinion expressed	4	20
Total	20	100
2. Did the ratings make pupils more critical of teachers?		
a) Lessened their normal tendency to criticize	0	0
b) Made pupils more critical	8	40
c) Did not make pupils more critical	5	25
d) No opinion expressed	7	35
Total	20	100
3. Did the ratings benefit you in any way?		
a) Caused me to pay more attention to pupil reactions	4	20
b) Caused me to re-examine my teaching procedures in an effort to improve	6	30
c) Encouraged me and inspired me to better efforts	4	20
d) No opinion expressed	9	45
4. Did the ratings have any undesirable effect on you?		
a) I became so uncomfortably self-conscious that my teaching efficiency suffered somewhat	4	20
b) The ratings caused me to lose confidence to an extent that was harmful	1	5
c) The results of the ratings upset me emotionally	1	5
d) No opinion expressed	14	70
Total	20	100
5. What is your attitude toward ratings?		
a) I disapprove	6	30
b) I would approve if results were not obtained by the office	2	10
c) The office should obtain ratings once each year in the future	8	40
d) No opinion expressed	4	20
Total	20	100

by comments concerning pupil attitude made by pupils and teachers for several days after the ratings (Question 2), the pupils discussed the ratings given the teachers in much the same spirit and to about the same extent that they generally discuss their responses to questions in an important or an unusual test. Question 3 indicates that nine of the twenty teachers felt that they had not been benefited. The remaining eleven teachers (55 per cent) indicated that they had received some benefit. The fact that 70 per cent of the teachers checked none of the responses to Question 4 seems to indicate that the ratings had no undesirable effect on them.

It was stated that nine of the twenty-nine teachers did not submit answers to the questionnaire, which was issued during the last week of school when the teachers were busy making annual reports and plans for the summer vacation. It is impossible to state which of the following statements, if any, explains their failure to reply: (1) In the final rush they forgot the questionnaire. (2) They opposed ratings so strongly that they wanted nothing more to do with them. (3) They were indifferent and lacked definite opinions on the questions asked. It will be noted that some teachers who replied did not express opinions on all questions.

The consideration of the attitudes of pupils and teachers suggests the following recommendations: (1) The results of pupil ratings should be known to the teachers alone if the purpose is to have teachers use the ratings to improve pupil-teacher relationships. If the ratings did not go on record at the office, teachers would have less cause to be upset emotionally and the danger that pupils might come to think that they were the judges of teachers would be eliminated. (2) The ratings should be obtained at the end of the school year. This suggestion has several factors in its favor: the pupils would have little opportunity to discuss the results (if such discussion is undesirable); pupils would be less inclined to fear that the results might affect their marks; and pupils would have a better background for making judgments after spending an entire semester —in some instances an entire year—in the teacher's classroom. Any worth-while suggestion received from the ratings could be used by the teacher in the following semester.

Because many of the teachers of this study reacted unfavorably to the idea of pupil ratings, it cannot be concluded that pupil ratings are doomed to an unchangeable hostile attitude on the part of these teachers or on the part of teachers generally. It is a wonder that the attitudes of more of the teachers of this study were not unfavorable in view of the fact that the teachers had practically no opportunity to gain a good understanding of the real purpose and possible values of pupil ratings. Even if these teachers had gone beyond the information included in a few bulletins issued by the office and had attempted to gain a better understanding of ratings through reading, they could have found little helpful material on the subject of secondary-school pupil ratings except four or five magazine articles dealing with a few phases of the subject.

It is reasonable to expect teachers to react as favorably to pupil ratings as they now react to classroom supervision (1) if the method of obtaining ratings is improved, (2) if teachers gain an adequate knowledge of how to interpret ratings (a teacher who sees only his own rating and accompanying pupil comments cannot well avoid misinterpretation), and (3) if a wide experience with pupil ratings in a large number of schools is in harmony with even some of the claims that are being advanced in favor of such ratings.

PROBLEMS FOR FURTHER INVESTIGATION

Only a slight beginning has been made in investigating the field of pupil rating of teachers. Following are a few problems suggested by the present study.

1. Time should be spent in an effort to construct rating instruments which will contain items of greater merit than those used in the instruments published to date. If many items were experimented with from the standpoint of wording and scale construction, better rating instruments than any published to date could almost certainly be constructed for use at various age levels.

2. Does the presence of the teacher being rated affect the reliability of the ratings? In the present study teachers exchanged classrooms when the ratings were obtained. If sufficiently reliable ratings could be obtained under the supervision of the teacher who is being rated, the inconvenience of having teachers exchange class-

rooms would be eliminated and the pupils probably would be less inclined to view the event as one having special significance.

3. To what extent do the opinions of different classroom groups differ concerning the ratings deserved by a teacher? If they differ significantly, what are the reasons for the differences?

4. Can reliable norms be established for the items of a rating instrument? A rating scale containing items of tested merit and accompanied by detailed instructions concerning the procedure of administration could be used to obtain ratings of twenty or thirty teachers in a number of schools. Medians for each school could then be determined and compared. In this manner it may be possible to establish norms that would be serviceable to individual teachers in any school.

5. Are the correlations between pupil ratings of teachers and teacher merit as determined by standardized tests as high as the correlations between administrators' ratings and teacher merit? A study of this question could be made by ranking teachers according to merit as determined by the results of the administration to their pupils of a series of standardized tests (for example, tests in English, Latin, or algebra). The ranks thus assigned to teachers could then be correlated with the ranks determined by the average ratings given by pupils and by administrators. The rank assigned each teacher by means of the standardized tests could then be correlated with the rank assigned the same teacher by the pupils and by the administrators.

THE MARK OF "INCOMPLETE" IN ONE HIGH SCHOOL

VICTOR H. KELLEY
Phoenix Union High School, Phoenix, Arizona

At the close of each semester the high-school teacher is forced by the present marking system to send in to the registrar's or the principal's office some type of rating for each pupil enrolled in his class. Usually a five-point scale is adopted, with an additional category for incomplete work. As the teacher attempts to close his record-book for the semester, he usually finds that the following types of items make the task difficult: the semester final examination was not taken; a project was not completed; a term paper was not handed in; or a pupil was absent for two weeks near the close of the semester because of illness. An escape is often found by giving the student a mark of "incomplete" with the provision that the work be made up during the first term of the ensuing semester.

Evidently this procedure is followed in numerous high schools throughout the country. Since Phoenix is a winter tourist center, there are a large number of transient pupils. The number of semester marks of "incomplete" appearing on the records of the pupils entering Phoenix Union High School indicates that other schools make liberal use of this category in their marking systems.

The mark of "incomplete" is often unsatisfactory to all persons concerned. The pupil has a feeling that the unfinished task remains as a responsibility during the next semester when he should be bending his energies toward his new work. The parents are usually dissatisfied because their child has not accomplished the work of the semester and because there will have to be a check, when the opportunity arrives, to see that the work is made up. The teacher is usually not satisfied because he knows that during the following semester he will need to do at least three things for the pupil: make it possible for the pupil to remove the "incomplete" mark, which usually involves extra work on the teacher's part; check to see that

the pupil has done the work satisfactorily; and see that a mark or a failure slip is sent to the office. The registrar or the principal is not satisfied because additional clerical work is necessary before the record is straightened out.

This article reports a study of the marks of "incomplete" given in one high school for a period of five years. Phoenix Union High School is a four-year school with an enrolment of more than 5,000 pupils and a staff or more than 150 teachers. While only about 1.5 per cent of the marks are classed as "incomplete," the total

TABLE 1

PERCENTAGES OF PUPILS FINALLY RECEIVING CREDIT FOR WORK GIVEN "INCOMPLETE" MARK FROM 1930–35

School Year	First Semester		Second Semester	
	Number of Pupils Receiving "Incomplete"	Percentage of Pupils Given Credit	Number of Pupils Receiving "Incomplete"	Percentage of Pupils Given Credit
1934–35	476	61	160	49
1933–34	426	67	208	49
1932–33	323	62	152	46
1931–32	354	75	164	37
1930–31	413	63	100	41
Entire period	1,992	65	784	45

number of such marks creates a problem. This study aims to do three things: (1) to determine what percentage of the marks of "incomplete" are made up by the pupil, (2) to determine the marks received by the pupil on the removal of the "incomplete," and (3) to determine the reason for the failure of the pupil to remove the "incomplete" mark.

The percentages of pupils who from 1930–35 finally received credit for incomplete work are shown in Table. 1 During the first semester of 1934–35, 476 pupils received marks of "incomplete," 61 per cent of which were finally removed. During the second semester 160 pupils received "incomplete" marks, only 49 per cent of which were removed. An examination of the table shows that approximately two and a half times as many "incomplete" marks were given in the

first semesters as were given in the second semesters. The writer questions the justification for this difference. If a pupil should be given the opportunity to make up work at all, then he should have just as much opportunity at the second as at the first semester. Teachers have probably justified giving "incomplete" marks at the end of the first semester because they believe that it will be possible for them to follow the pupil's work more closely. The fact that the teacher and the pupil have more definite contact with each other at the end of the first semester is probably one of the reasons for the larger percentage of "incomplete" marks which are changed to passing marks at the end of the first semester. In many cases the pupils receiving "incomplete" marks at the first semester are re-enrolled in the class under the same teacher, where pressure is brought to bear on the pupils and encouragement is given to make up the work.

The marks finally received by pupils who removed the "incomplete" marks are shown in Table 2. Evidently there is some justification for giving "incomplete" marks, for in the first semesters 39 per cent and in the second semesters 47 per cent received marks of "3" or better. It is significant, of course, that only a small percentage of the pupils received a mark of "1" (the highest), whereas more than half of those who received credit at all were given the lowest passing mark. One wonders whether it is the poor pupils who receive "incomplete" marks or whether teachers are unwilling to accept the made-up work on the same basis as the regular work. No significant differences can be noted between the work of the first and the second semesters in terms of the quality of credit received. One might reasonably expect that the marks would be better in the second semester, for the fact that fewer such marks were given at the end of the second semester indicates that teachers have more carefully scrutinized the "incomplete" marks. On the other hand, it is possible that in the second semester the teachers included in their passing lists the records for some pupils who did the quality of work that would be marked "incomplete" for the first semester. Then, too, the intervening summer vacation renders it more difficult for a pupil to make up the second semester's "incomplete" mark.

The disposition of pupils receiving "incomplete" marks which

were not made up is shown in Table 3. All these pupils became failures but by different means. The pupils reported to the registrar's office as "failing" may have been so reported because they failed to complete the work or because they completed the work in such a way that it was necessary to give a mark of failure. The writer is convinced, from talking to a number of teachers, that a

TABLE 2

PERCENTAGE DISTRIBUTION, ACCORDING TO FINAL MARK, OF PUPILS WHO FINALLY RECEIVED CREDIT FOR WORK GIVEN "INCOMPLETE" MARK FROM 1930–35

SCHOOL YEAR	NUMBER OF PUPILS	PERCENTAGE OF PUPILS RECEIVING MARK			
		1 (Highest)	2	3	4
First semester:					
1934–35	291	2	6	30	62
1933–34	287	2	8	22	68
1932–33	200	3	13	25	59
1931–32	264	1	11	30	58
1930–31	261	4	13	28	55
Entire period	1,303	2	10	27	61
Second semester:					
1934–35	78	5	10	31	54
1933–34	101	1	9	31	59
1932–33	70	4	17	23	56
1931–32	60	5	20	33	42
1930–31	41	7	20	27	46
Entire period	350	4	14	29	53

large percentage of the failure occurred because the pupils did nothing about the task of removing the "incomplete" marks. The column headed "Dropping out after re-entering school" includes the pupils who re-enrolled for a short period but dropped out before removing the "incomplete" marks. Theoretically, these pupils dropped out during the first six weeks of the ensuing semester, but many of them actually remained in school somewhat longer although all had left before the close of the ensuing semester. The heading "Failing to re-enter" indicates that the pupil did not attend school at all in the ensuing semester. There is a difference between these classifica-

tions in the first and the second semesters. In the first semester 39 per cent either dropped out after entering or did not re-enter whereas 55 per cent were in these classifications after the second semester. One would like to know how much influence the "incomplete" marks may have had on the dropping-out and on the

TABLE 3

PERCENTAGE DISTRIBUTION, ACCORDING TO FINAL DISPOSITION, OF PUPILS GIVEN "INCOMPLETE" MARK WHO DID NOT FINALLY RECEIVE CREDIT FOR THE WORK

YEAR	NUMBER OF PUPILS	PERCENTAGE OF PUPILS			
		Failing	Dropping Out After Re-entering School	Failing To Re-enter	Miscellaneous
First semester:					
1934–35	185	56	17	25	2
1933–34	139	54	23	19	4
1932–33	123	46	24	27	3
1931–32	90	64	2	31	3
1930–31	152	73	13	13	1
Entire period	689	59	17	22	2
Second semester:					
1934–35	82	28	12	54	6
1933–34	107	53	8	34	5
1932–33	82	31	13	54	2
1931–32	104	43	3	38	16*
1930–31	59	37	5	58	.....
Entire period	434	39	9	46	6

* Given one-fourth of a nonsolid credit.

failure to re-enter. Another study should be made to show the effect of the "incomplete" on the marks of the pupils in the ensuing semester. If a pupil carries a full load and removes an "incomplete" mark, it is evident that he is carrying a heavier load than he was carrying when he received the mark of "incomplete."

Some of the pupils who dropped out or who did not re-enter transferred to other institutions. This situation occasions no end of difficulty. The institutions receiving the pupils need to know the status of the incomplete grades. Sometimes a pupil removes the

"incomplete" mark by making up the work and returning it to the Phoenix Union High School for recording. In far too many cases, however, the pupil loses the credit. The correspondence necessary to straighten out the status of "incomplete" marks is a sizable chore for the secretary who handles this work.

The evidence presented in this rather limited study of the practice in one high school would seem to warrant the following conclusions: (1) Marks of "incomplete" are usually unsatisfactory to pupils, parents, teachers, and the registrar's office. (2) "Incomplete" marks are removed in only a little more than 50 per cent of the cases. More careful checking of the situation should therefore be made before this mark is given. (3) The majority of the "incomplete" marks for which credit is finally assigned are given the lowest passing mark. Probably many of the pupils had done work of sufficient quantity and of such quality as to merit that mark at the end of the semester. (4) A majority of the "incomplete" marks which were not removed probably became failures because the pupil takes little or no responsibility toward removing the "incomplete" mark. If the "incomplete" category is used, the pupil should be impressed with the necessity of undertaking the task of making up the credit.

THE ST. PAUL PROGRAM OF GUIDANCE

J. E. MARSHALL
Central High School, St. Paul, Minnesota

GUIDANCE PROGRAM NECESSITATED BY NEW PROBLEMS FACING THE HIGH SCHOOL

Superintendents and principals have realized for years that their educational offerings are not functioning in the lives of a large majority of the secondary-school pupils. The self-criticism of school men has had no equal from outside critics. School executives have, as a group, been more than willing to adopt any measures promising to remedy the situation. Enrichment of courses, modification of subject matter, reorganization of school units, changes in methods —all have been tried and are still in operation. One panacea after another has been proposed, hailed, and tried out as the solution of the schools' problems. As a result the schools are in a muddle, and the problems, instead of being solved, are piling up mountain high.

One of the main reasons for the failures has been that, even though there have been many experiments, much the same techniques of teaching and administration are employed as were used in the beginning. The nature of the school system has necessitated mass education. Knowledge was, supposedly, placed before the group of pupils, and absorption of the knowledge by each pupil was expected. Its suitability to the needs or the capacities of the pupil was not the affair of the school. The facts and their implications were before the pupil: he could take them or leave them. He who could not or would not avail himself of his opportunity was advised that it would be better for all concerned if he transferred his activities to some other scene of action.

This method was proper, perhaps, during that period in our history when the high school was strictly a college-preparatory institution and industry easily absorbed everyone who knocked at its doors. With the turn of the century, however, the whole picture changed. The masses discovered the high school; the aftermath of

the World War and changing social and economic conditions brought a deluge of pupils. The schools were not prepared to meet the situation either physically or educationally. The old landmarks have disappeared. Types of pupils hitherto unknown to the high schools, with needs and demands formerly unvoiced in classrooms, are now attending secondary schools and seem destined to remain. The take-it-or-leave-it attitude is no longer tolerable. High-school workers are no longer certain that they are even properly preparing those pupils who have no problem except preparation for higher education.

Confronted with these new problems, educators discover that none of the old answers seem to fit. Added to the dilemma is the fact that the commercial and the industrial worlds are no longer the same. Advice given to pupils only a few years ago no longer applies. The preparation needed to enter industrial fields then is no longer adequate. In fact, so rapid is the shift that the occupational opportunity may disappear in a given area while the pupil is in the midst of his training. This whole state of affairs has come with such seeming suddenness that educators are left groping and somewhat aghast.

If the state of mind of educators can be thus described, what is the mental attitude of the pupil and his parents? Not being able to see the way out for themselves, they are looking to the schools for help. They want definite, concrete educational and vocational guidance. They wish to know what subjects should be studied and why. If a pupil fails in his work, they want to learn the real cause and possible remedies. Generalizations, based on teachers' subjective ratings alone, will no longer suffice. These have their place and value, but they must be supplemented by as much other objective and subjective data as can be secured.

INFORMATION NEEDED IN A GUIDANCE PROGRAM

After struggling for several years with these problems, the administration of Central High School, St. Paul, discovered its inability to master them with the data at hand. Experience and an analysis of our needs convinced us that we must have a definite scientific compilation of information about our pupils and their needs, arranged in such form as to be instantly available for use

in counseling with individuals. We agreed that we needed as much light as we could get on the following items: (1) the types of pupils in our school; (2) the capacities of each pupil; (3) the special interests and abilities of each pupil; (4) the background, the aims, and the ambitions of each pupil; (5) any emotional and personality detractors which a pupil might have; and (6) real or possible causes of maladjustment of a pupil.

We wished also to investigate the possibilities of a scientific evaluation of a pupil's knowledge. This line leads directly to an evaluation of courses of study and teaching techniques, with an ultimate scientific reorganization of the curriculum. We need precise, up-to-date information on conditions and trends in the commercial and the industrial fields.

To gather the data which we conceived necessary, we set up a testing and guidance bureau patterned after E. G. Williamson's bureau at the University of Minnesota. The aim of this bureau is to furnish us with a thorough clinical analysis and diagnosis of each pupil.[1]

PURPOSES OF A GUIDANCE PROGRAM

After a two years' experimental tryout at Central, the program, in its fundamentals, has been adopted for all the high schools of the city. This adoption followed an unpublished report to Superintendent Amidon made by a general Committee on Guidance. The report included the following topics: (1) "A Guidance Program—Its Purpose," (2) "The Duties of a Guidance Department," (3) "Recommended Organization for an Effective Guidance Program," and (4) "Implications To Be Drawn from a Guidance Program."

The purposes of the guidance program were listed as follows: (1) to discover the causes of pupil elimination from school before graduation and, where the elimination is the result of maladjustment or of low achievement, to attempt by proper guidance to direct pupils into present or revised courses in line with their abilities; (2) to make an effort to remove much of the strain and stress of our present

[1] A more detailed description of this bureau and its activities will be found in a brochure entitled *An Explanation of the Student Personnel Program* by M. E. Hahn, director of guidance, Central High School, St. Paul, Minnesota. Copies may be had by writing to M. E. Hahn or to J. E. Marshall.

system by devising a scientific method of evaluating the work of pupils; (3) to discover and reduce distractors which today cause failures among potentially able pupils; (4) to motivate pupils to achieve up to their capacities. The fundamental aims, then, of a guidance program center in the pupil, in his continuance in school, and in the adaptation of courses and teaching methods to his individual needs.

To accomplish these aims, clinical guidance must assist in bringing about effective utilization of present-day educational resources. A responsibility of the guidance program is to utilize its techniques in the discovery of desirable and feasible modifications of the present educational structure in line with the discovery of pupils' needs and possibilities. In line with this aim the entire English course at Central High School, a part of the science course, and the course in world-history have been paralleled by modified courses suited to the capacities of pupils who cannot succeed in the regular work. This method will be extended to other courses.

Although much of the work of guidance has to do with the correction of maladjustments through every known device, the major objective of guidance work must be to achieve measures which will tend to prevent maladjustment. This aim requires that pupils be led to attempt that type of education which is consonant with their attitudes and abilities.

It should be a further function of a guidance bureau to be on the alert to note and to acquaint the administration with accepted modifications of the present program which are discovered and worked out successfully elsewhere in the educational field. A properly constituted guidance organization thus becomes, educationally, a scientific arm of the administration.

In our committee's report to the superintendent of schools, the chief function of a guidance department was conceived as the making of a continuing study of the student body whereby a record can be made and kept of the intelligence, the abilities, and the aptitudes of each pupil by the collection and utilization of the following data: (1) general educational capacities of a pupil, determined by the frequent administration of standard tests of intelligence, achievement, and special ability; (2) a health record of each pupil, noting

any physical disabilities which might interfere with the pupil's vocational and educational adjustment; (3) confidential transcripts of all personal interviews of the pupil with teachers, administrators, and guidance workers (a record should be kept of each pupil's social and emotional behavior); (4) a record of what parents have to communicate concerning the adjustment of the pupil, note being kept of the parents' plans for the child, such as continued education and vocational choice; and (5) a personalized synthesis of all available information for each pupil, made by a trained guidance worker before the pupil's registration in high school, in order that he may be directed to the educational curriculum which seems best for his adjustment.

The primary duties of the whole guidance organization are to discover and to meet problems of educational and vocational adjustment and to secure the co-operation of the administration and the faculty in carrying out the program in the interests of the pupil.

ORGANIZATION FOR EFFECTIVE GUIDANCE

Organization for an effective program embodies the following features.

1. There should be a city director of guidance to supervise guidance activities in all schools, to assist each school in initiating and developing its program, to give proper emphasis to the guidance point of view throughout the school system, and to initiate a placement program.

2. Within each school there should be a school director of guidance without teaching assignment, who shall have complete supervision of the guidance program in that school under the direction of the principal. Under this school director there should be an adequate clerical force for scoring tests, keeping records, transcribing case records, and performing general clerical routine. There should be a pyschometrist to administer and interpret psychological tests and other case data.

3. Each school director should have attached to his office, and under his supervision, a committee of carefully selected and trained teachers, with light teaching schedules, who will act as general

counselors of pupils carefully diagnosed by the director and the psychometrist. These teachers will not be expert counselors, but general counselors assisting the director in handling his counseling load and also acting as liaison between the technical guidance services and the general faculty.

4. The school director, the psychometrist, or one of the general counselors should be trained to teach classes in occupations.

5. As quickly as possible, each school director should institute a program of anecdotal contributions by teachers to the diagnosis and the treatment of each pupil's case. Essentially, this procedure is both a method of collecting from teachers, with a minimum expenditure of time, all the valuable comments and observations that they may have about the pupil's conduct in the classroom, and also a valuable method of teaching the general faculty the guidance point of view so that they may individualize their teaching of pupils and assist in the adjustment of pupils following diagnosis and recommendation by the guidance bureau.

6. The school director should serve as the co-ordinator of the personnel agencies within each school. He may co-ordinate the work by holding weekly staff clinics, at which the cases of individual pupils are presented and discussed in the presence of the pupils' teachers, the school nurse, the principal, the assistant principal, the dean of girls, and any other specialized personnel workers who may have had contact with the pupils. This staff clinic will serve as a means of educating the guidance staff and of co-ordinating all personnel forces and will also assist in the adjustment of individual cases in a harmonious manner. The general counselors of the school should be invited to these staff meetings, particularly when a case of one of their pupils is involved.

7. The school director should be directly responsible to a school principal, but he should also have some responsibility to the city director of guidance in order that there may be integration and co-ordination of the programs in all schools.

8. The city director should institute a program of guidance research to be carried on in co-operation with all the school directors of guidance so as to collect basic data necessary to adequate diag-

noses of maladjustments, to adequate treatment of those maladjustments, and to the setting-up of preventive measures throughout the school system.

9. Within each school a guidance bureau should be organized and accepted as an official part of the program. This bureau should be given adequate rooms for interviewing in privacy and for examining from one to one hundred pupils with privacy. There should also be adequate filing equipment and space for keeping a careful and accurate file of all case material in such a way as to insure complete privacy for these confidential records.

In connection with, and as a valuable part of, the guidance program at Central High School, separate classes in "vocations" for boys and girls have been organized. No textbook is used, but up-to-date information is collected from all available sources and placed in the hands of the pupils. Self-rating blanks are filled out by each pupil, and various aptitude, attitude, and achievement tests are given to each child. The results of these tests and ratings form the basis for personal interviews with the instructors. Outsiders are brought in from the various types of industry, who talk to the classes about their work on a functional basis, following an outline prepared by the teacher. An attempt is made to give the pupils as broad a view as possible of the world about them.

This program, then, is the means by which one school, and ultimately one city, is meeting the conditions which we, as well as other schools, are facing. We do not hope to solve all our problems. Much of our work will be experimental and pioneering in this field. Our organization is functioning, and we are beginning to get results. We are enabled, at least, to isolate some of our difficulties, to arrive at some idea of their elements, and to develop techniques for their possible removal.

SELECTED REFERENCES ON EDUCATIONAL PSYCHOLOGY

FRANK N. FREEMAN, G. T. BUSWELL, AND MARION A. WENGER
University of Chicago

An explanation should be made of the fact that some of the books and articles which belong in the field of educational psychology are not included in this summary. A number of studies of learning, mental growth, and individual differences in preschool children are included in the list of references on preschool education. Again, a number of studies in learning in the school subjects or the psychology of the school subjects are included in the lists of selected references on the school subjects. It was thought best to include these studies in the lists mentioned in order that the needs of persons interested in those subjects would be adequately met.

General and Theoretical Discussions

342. Bowden, A. O., and Melbo, Irving R. *Social Psychology of Education.* New York: McGraw-Hill Book Co., Inc., 1937. Pp. xvi+296.

An exposition of the important principles and generalizations of social psychology and their application in specific educational procedures.

343. Garth, Thomas R. *Educational Psychology.* New York: Prentice-Hall, Inc., 1937. Pp. xvi+320.

A brief exposition of the usual psychological topics, with emphasis on learning and on experimental sources.

344. Pressey, Sidney L., and Janney, J. Elliott (Editors). *Casebook of Research in Educational Psychology.* New York: Harper & Bros., 1937. Pp. xviii+432.

Consists of condensed reports of scientific studies in thirteen topics of educational psychology, with brief comments.

345. Trow, William Clark. *Introduction to Educational Psychology.* Boston: Houghton Mifflin Co., 1937. Pp. x+416.

A general textbook assuming no previous knowledge of psychology and emphasizing the general aspects of the subject.

MENTAL GROWTH AND CHILD PSYCHOLOGY

346. BROOKS, FOWLER D., with the collaboration of LAURANCE F. SHAFFER. *Child Psychology.* Boston: Houghton Mifflin Co., 1937. Pp. xxx+600.

A comprehensive and detailed description of the mental characteristics and mental growth of children, with emphasis on the results of scientific studies.

347. CUFF, NOEL B. *Child Psychology.* Louisville, Kentucky: Standard Printing Co., Inc., 1937. Pp. 300.

A brief, simply written book covering topics most frequently mentioned as necessary by teachers and students of child psychology.

348. DAVIS, EDITH A. "The Mental and Linguistic Superiority of Only Girls," *Child Development*, VIII (June, 1937), 139–43.

Mental and linguistic abilities of 97 "only" children are compared with those of 166 twins and 173 "non-only" singletons. Some notes on possible sex differences in only children are included.

349. FREEMAN, FRANK N., and FLORY, CHARLES D. *Growth in Intellectual Ability as Measured by Repeated Tests.* Monographs of the Society for Research in Child Development, Vol. II, No. 2. Washington: National Research Council, 1937. Pp. xii+116.

A study of the duration and the rate of intellectual growth and a comparison of the mental growth of children of various degrees of ability were made by following the same children from year to year.

350. JERSILD, ARTHUR T. "Curriculum Maker—Know Your Child," *Childhood Education*, XIII (May, 1937), 405–9.

A review of some research concerning the relation between maturity and achievement and an argument for adjusting the curriculum to the maturity of the child.

351. MEYER, EDITH. "The Child's Conception of Spatial Relationships," *Progressive Education*, XIV (March, 1937), 199–207.

A brief report of an investigation, patterned after the works of Piaget, of the development of spatial concepts in children aged four to twelve years and the relation thereof to conscious thought.

352. NEWMAN, HORATIO H., FREEMAN, FRANK N., and HOLZINGER, KARL J. *Twins—A Study of Heredity and Environment.* Chicago: University of Chicago Press, 1937. Pp. xvi+370.

A statistical study of fifty pairs of identical twins and fifty pairs of fraternal twins reared together and of nineteen pairs of identical twins reared apart.

353. SKEELS, HAROLD M., and FILLMORE, EVA A. "The Mental Development of Children from Underprivileged Homes," *Pedagogical Seminary and Journal of Genetic Psychology*, L (June, 1937), 427–39.

An addition to the already large group of studies describing the influence of environment on intelligence quotients.

354. SYMONDS, PERCIVAL M. "Changes in Sex Differences in Problems and Interests of Adolescents with Increasing Age," *Pedagogical Seminary and Journal of Genetic Psychology*, L (March, 1937), 83–89.

A comparison of the problems and the interests of high-school boys and girls, college men and women, and male and female graduate students.

INDIVIDUAL AND GROUP DIFFERENCES

355. BENTLEY, JOHN EDWARD. *Superior Children.* New York: W. W. Norton & Co., Inc., 1937. Pp. xxiv+332.

A general treatment of the problem.

356. BURT, CYRIL. *The Backward Child.* New York: D. Appleton–Century Co., Inc., 1937. Pp. xx+694.

A general treatment. Deals with causes and treatment of individual differences.

357. CANADY, HERMAN G. *Individual Differences among Freshmen at West Virginia State College and Their Educational Bearings.* Department of Psychology and Philosophy Contribution No. 3. West Virginia State College Bulletin, Series 23, No. 2. Institute, West Virginia: West Virginia State College, 1936. Pp. 42.

Shows range of individual differences and makes recommendations for treating them.

358. HILL, THOMAS B. *The Classification and Education of Mentally Handicapped Children in Various Countries.* Australian Council for Educational Research Series, No. 47. Melbourne, Australia: Melbourne University Press, 1937. Pp. 104.

Based on questionnaires from various countries of the world. Treats several aspects of the problems of handicapped children.

359. PRITCHARD, MIRIAM C. *The Mechanical Ability of Subnormal Boys.* Teachers College Contributions to Education, No. 699. New York: Teachers College, Columbia University, 1937. Pp. x+74.

A study of seventy-nine subnormal boys, relating to several types of measurement.

360. RAY, JOSEPH JAMES. *The Generalizing Ability of Dull, Bright, and Superior Children.* George Peabody College for Teachers Contribution to Education No. 175. Nashville, Tennessee: George Peabody College for Teachers, 1936. Pp. xiv+110.

Reports a study of the effect of degree of ability on problem-solving. Subjects were twelve-year-old children.

361. RICHEY, HERMAN G. *The Relation of Accelerated, Normal, and Retarded Puberty to the Height and Weight of School Children.* Monographs of the Society for Research in Child Development, Vol. II, No. 1. Washington: National Research Council, 1937. Pp. vi+68.

Presents data on 1,871 girls and 1,884 boys, aged six to eighteen. Excellent material as a background for interpreting individual case records.

362. ROBBINS, SAMUEL D., and ROBBINS, ROSA SEYMOUR. *The Correction of Speech Defects of Early Childhood.* Boston: Expression Co., 1937. Pp. 68.

An exercise book for parents or teachers of young children who have speech defects. Treats both cause and correction.

363. SCHEIDEMANN, NORMA V. *The Psychology of Exceptional Children*, Vol. II. Boston: Houghton Mifflin Co., 1937. Pp. xii+460.

A book for teachers. Detailed treatment of various types of exceptional children. Includes many tables, diagrams, and case histories.

LEARNING[1]

364. CARR, HARVEY A. "The Search for Certainty," *Psychological Review*, XLIV (July, 1937), 274–96.

A criticism of the use of mathematical devices in treating psychological data in order to give a false appearance of scientific validity to such data.

365. HUGHES, A. G., and HUGHES, E. H. *Learning and Teaching.* New York: Longmans, Green & Co., 1937. Pp. x+460.

A general textbook. The references are chiefly to British sources.

366. KORNHAUSER, ARTHUR W. *How To Study.* Chicago: University of Chicago Press, 1937 (revised). Pp. viii+56.

Detailed suggestions for the improvement of study, together with a summary of rules for effective work. Written to assist high-school and college students.

367. MCDADE, JAMES E. "A Hypothesis for Non-oral Reading: Argument, Experiment, and Results," *Journal of Educational Research*, XXX (March, 1937), 489–503.

Describes the author's experiment and shows results at first-grade level.

368. TIEGS, ERNEST W. *The Management of Learning in the Elementary Schools.* New York: Longmans, Green & Co., 1937. Pp. xiv+306.

Attempts to show how the learning of school subjects may contribute to certain specific objectives of the school.

MENTAL MEASUREMENT AND RATING[2]

369. BAXTER, EDNA DOROTHY. "The Baxter Child Personality Test," *Journal of Applied Psychology*, XXI (August, 1937), 410–30.

[1] See also Item 462 (Orton) in the list of selected references appearing in the October, 1937, number of the *Elementary School Journal* and Item 18 (Hopkins) in the January, 1938, number of the *School Review.*

[2] See also Item 430 (Thurstone) in the list of selected references appearing in the June, 1937, number of the *School Review*, Item 432 (Bingham) in the September, 1937, number of the *School Review*, and Item 114 (Fales) in the March, 1938, number of the *Elementary School Journal.*

The construction and the standardization of a personality test for children aged four to thirteen years, inclusive, characterized by duplicate lists of questions for child and mother.

370. KAWIN, ETHEL. "The Rating Scale as a Service Instrument," *Childhood Education*, XIII (May, 1937), 426–30.

A critical evaluation of rating scales, with comments on their practical values to teachers.

371. LINK, HENRY C. "A Test of Four Personality Traits of Adolescents," *Journal of Applied Psychology*, XX (October, 1936), 527–34.

A brief report of a questionnaire for measuring personality (defined as extroversion, or the possession of habits which will successfully influence other people) in terms of "social initiative," "self-determination," "economic self-determination," and "sex adjustment."

372. PALLISTER, HELEN. "American Psychologists Judge Fifty-three Vocational Tests," *Journal of Applied Psychology*, XX (December, 1936), 761–68.

A quantitative analysis of the responses of thirty-eight psychologists who were requested to evaluate tests used in guidance.

373. SNYDER, TROY A. "Reporting Intelligence-Test Scores to High-School Pupils," *School Review*, XLV (February, 1937), 105–11.

The results of an experiment, in which intelligence-test scores and percentile ranks were reported to pupils, are given in terms of questionnaire responses and effect on mean scores.

374. WOOD, BEN D. "Test Scoring by Machine," *Nation's Schools*, XX (August, 1937), 34–36.

A brief description of the operation, speed, and reliability of a new electrical scoring machine.

PERSONALITY AND ADJUSTMENT[1]

375. LANGLIE, T. A. "Personality Ratings," *Pedagogical Seminary and Journal of Genetic Psychology*, L (June, 1937), 339–59, 401–26.

A rather extensive study of personality ratings.

376. LYND, ROBERT S., and LYND, HELEN MERRELL. *Middletown in Transition—A Study in Cultural Conflicts*. New York: Harcourt, Brace & Co., 1937. Pp. xviii+604.

An extension of the authors' 1929 publication. A good study of personality development.

[1] See also Item 460 (Monroe and Backus) in the list of selected references appearing in the October, 1937, number of the *Elementary School Journal* and Item 158 (Thom) in the April, 1938, number.

377. PHILLIPS, MARGARET. *The Education of the Emotions through Sentiment Development.* London: George Allen & Unwin, Ltd., 1937. Pp. 318.

Study based on 275 cases dealing with stages of development.

378. PLANT, JAMES S. *Personality and the Cultural Pattern.* New York: Commonwealth Fund, 1937. Pp. x+432.

Proposes treatment of personality through modification of environment rather than through psychiatric treatment.

379. STAGNER, ROSS. *Psychology of Personality.* New York: McGraw-Hill Book Co., Inc., 1937. Pp. xii+466.

Deals with normal, everyday personality. Attempts a scientific approach to personality development.

Educational Writings

REVIEWS AND BOOK NOTES

A new challenge to adolescent psychology.—For a rather long period of time research in physical and mental growth at the adolescent level has appeared to be in something of an eclipse. The teen age has not been the beneficiary, for example, of investigations of the type which have characterized recent study of early childhood. Although conceptions of adolescence usually associated with the work of G. Stanley Hall and his contemporaries have undergone revision, they still dominate current practice in educational and other social fields to a much greater extent than their factual bases appear to warrant. The foundations of prevailing adolescent psychology need to be subjected to re-examination and re-evaluation which utilize the most effective tools of modern scientific research. A recent study[1] provides an illuminating example of the service which this type of investigation may render when applied to the period of adolescence.

The first four chapters of the volume deal with the adolescent's expanding world, play pursuits, personality, behavior, and choice of friends. Two of the following chapters are concerned with the status sought by the adolescent, and two more chapters with his interests and activities in forming groups. Other chapters cover such topics as emancipation from parents, moral and religious thinking, puberty and physical growth, and the need for understanding the adolescent. The main content is preceded by a foreword by Hugh S. Hartshorne and an introduction by the author. Data are effectively illustrated by tables and pictographs.

The technique employed in the investigation was to study two hundred boys, twelve to fourteen years of age at the beginning of the study, over a period of two years. When the study was initiated, the majority of the boys were not yet pubescent; when it was completed, nearly all had passed through puberty. It was thus possible to study the boys' development from fourteen to sixteen and to discern the changes in the boys paralleling their pubescent growth. At the beginning of the project the boys were all members of organized groups, which included the Boy Scouts, church clubs, public-school classes, Y.M.C.A. classes, and neighborhood play groups. All lived in either Milwaukee or Kenosha, Wis-

[1] Hedley S. Dimock, *Rediscovering the Adolescent: A Study of Personality Development in Adolescent Boys*. New York: Association Press (347 Madison Avenue), 1937. Pp. xx+288. $2.75.

consin, and they were representative of their communities in intelligence, religious affiliations, and socio-economic status. Eleven experienced secretaries of the Young Men's Christian Association, utilizing physical examinations, standardized tests, interviews, and case-study techniques, collected the data. The investigation was financed by the Wieboldt Foundation of Chicago and the Laura Spelman Rockefeller Memorial.

The findings of the study specifically challenge many of the assumptions having origins in the earlier psychology of adolescence. Only in physical growth, the evidence shows, do marked changes take place during the twelfth to the sixteenth year, when most boys are progressing from prepubescence to postpubescence. Among twenty-five other items, notably play behavior, emancipation from parents, moral and religious thinking, and personal attitudes of self-criticism, no pronounced changes are observed. Such changes as are observed do not appear to be related to pubescent development. Many aspects of adolescent development formerly attributed to pubescent growth appear to be due, instead, to social experience and environment.

The publication of this report will undoubtedly stimulate other studies in the same and related areas. A parallel study of girls at the adolescent stage should yield data valuable for supplementary and comparative purposes. This investigation illustrates clearly the advantages secured by studying the same individuals during a period of development in contrast with utilizing cross-sections of data of different individuals at various age levels. The author has also proved that interpretations of the results of research need not be expressed solely as abstractions for use of the scientist but may be so related to individuals or groups that they have meaning and reality for the lay reader as well. The book provides new materials toward the fixing of sounder bases for adolescent psychology and, in addition, furnishes a reinterpretation of its implications which will be of marked guidance to social and educational field workers.

PAUL R. PIERCE

WELLS HIGH SCHOOL
CHICAGO, ILLINOIS

Two textbooks in group guidance.—The rapid growth of the secondary school has necessitated some form of guidance program, but the size of the enrolment in large schools has frequently made the counselor-pupil ratio unduly high, the median in a recent study by Rosecrans being about fourteen hundred pupils to a counselor (*Guidance in Educational Institutions*, p. 154. Thirty-seventh Yearbook of the National Society for the Study of Education, Part I. Bloomington, Illinois: Public School Publishing Co., 1938). In such situations individual counseling is obviously impossible, and group guidance has, therefore, been advocated and practiced in some schools for years. Many administrators have contended that group guidance without textbook material is no more feasible than instruction in the classroom without suitable books. No doubt these asser-

tions are true in large part, because the typical high-school teacher has no training nor background in guidance on which to draw in planning a group-guidance program. For those who are seeking material to be used in group guidance, two recent publications should be of interest.

The book by Simley[1] is planned primarily to help orient prospective and actual high-school pupils so that they may choose wisely among the subjects offered in the secondary school. The book is divided into two parts. Part I, consisting of six chapters, discusses "What High School Is All about and What It Can Do for You." It was disappointing to find the money value of high-school attendance referred to as $2,750 a year (p. 14). The giving of such information, in the opinion of the reviewer, is unfortunate, and the correctness of the figure would be difficult to prove if a large number of equally capable pairs of pupils from the same economic class, one half with high-school training and the other half without, were compared. While the other reasons given for attending high school are, on the whole, satisfactory, no mention is made of the social and the economic forces which have made universal secondary education well-nigh an accomplished fact. These forces, rather than the money value of secondary education, account for the tremendous increase in enrolment.

The second part of the book, which comprises about 85 per cent of the whole, is much better. The various subject-matter fields are discussed adequately and in language which is easily understood and which should appeal to high-school pupils. For schools seeking such information the book will be valuable. The statement that there are only four pure natural sciences—astronomy, physics, chemistry, and biology (pp. 86–87)—disturbed the reviewer since it is untrue. The relation of these sciences to a typical high-school program is adequately treated.

School and Life[2] is the first of an ambitious series of three books which are projected to help orient pupils during the secondary-school period. The volume reviewed here plans to orient the incoming pupil in a new environment at either junior or senior high school level. Chapter ii, entitled "New Perplexities," brings sharply into focus a number of vital problems which concern new pupils and which are known to cause some of them to drop out of school. These problems will be immediately recognized as real, and the materials suggested for study should promptly clear up the difficulties that individual pupils may be experiencing. A feature of the book that will appeal to many is the use of check lists on which pupils may evaluate their knowledge of many social and educational items. The bibliography is well chosen. The photographs add much to the attractiveness of the book.

The reviewer is unable to accept the implication of the authors that guidance

[1] Irvin T. Simley, *High School and You*. Santa Rosa, California: Stewart Publishing Co., 1937. Pp. xxii+328. $1.40.

[2] Margaret E. Bennett and Harold C. Hand, *School and Life*. New York: McGraw-Hill Book Co., Inc., 1938. Pp. xiv+186. $1.24.

includes all of education—a conclusion which is inescapable if one studies the Table of Contents and the material in the book. The reviewer considers that such necessary study skills as note-taking and developing the ability to read are instructional problems in the various content fields, whether these are offered as core areas or as separate subjects, rather than a part of the guidance program. In the opinion of the reviewer, *School and Life* distributes its efforts too widely. The book is interestingly written in a simple style which is in sharp contrast to some of the passages in *High School and You*.

In spite of the shortcomings pointed out for the two books, their timeliness will undoubtedly win a place for them in the field of group guidance.

P. B. JACOBSON

Principles and practices governing visual instruction.—It is most unusual to find a textbook intended for teachers which arouses interest through the application of the very principles which it advocates. The authors of the book under review,[1] however, use headings and carefully selected, instructive illustrations placed in wide margins to exemplify many of the principles of visual instruction which they hope will guide publishers and teachers in the future.

These authors reaffirm the basic psychological principles that education proceeds from concrete to abstract, that relationships and generalizations must be deduced, and that only that instruction is sound which recognizes the varying backgrounds and abilities of the learners. If verbalism is to be avoided and learning made functional, visual aids must not be set apart. On the other hand, it is a mistake to believe that sensory experience is the end of instruction. It is only the beginning. Broad social concepts are the true ends of education.

Proceeding from concrete to abstract, the school journey, the school museum, motion pictures, still pictures, and graphic materials form the panorama which reveals the historical background, the existing situation, and the future possibilities of visual aids.

General suggestions for judging, selecting, using, and caring for instructional materials are offered on the basis of the functional concept. Objects removed from their setting are removed from functional relationships. The school journey stimulates interest in a complete, concrete, social situation which correlates school work with life. The school museum provides objective experience of a less concrete nature. However, if museum displays show progressive stages of development, function, or integrating relationships, they are truly instructive.

The illusion of reality in motion pictures may cause important psychological changes. Today's patterns of play, dress, speech, morality, and life-conduct are all influenced. Unfortunately the elements of dramatic presentation are lacking in many current educational films. Fortunately the possibilities have scarcely been touched. The instructional values of motion pictures come from their

[1] Charles F. Hoban, Charles F. Hoban, Jr., and Samuel B. Zisman, *Visualizing the Curriculum*. New York: Cordon Co., 1937. Pp. viii+300. $3.50.

ability to produce illusions and to depict motion and action in successive stages. Both observable and unobservable motion may be shown through animation, slow motion, time lapse, microphotography, and miniature photography.

Still pictures, illustrations, cartoons, posters, maps, charts, graphs, and diagrams should relate experiences and symbols by means of contrast, comparison, and continuity.

The use of visual aids means that adequate supervision, equipment, and facilities must be provided if the full benefits are to be received from such instruction.

The authors recognize their own shortcomings in this pioneer undertaking, for they say: "Future textbooks of this type will contain treatment of dramatization as an educational experience, workbooks, demonstrations, the radio, etc. There is also a need for laboratory manuals to accompany the descriptive treatment of books of this sort. But, for the time being, a start has been made" (p. 2).

WILLIAM F. EINBECKER

HIGHLAND PARK HIGH SCHOOL
HIGHLAND PARK, ILLINOIS

An analysis of basic factors underlying modern physical education.—The most recent expression of biological, sociological, and psychological foundations of physical education[1] to appear among the rapidly increasing number of publications in the field of health and physical education presents a modern interpretation of scientific information and philosophical thought which must serve as a basis for the development of standards and objectives in the field of physical education. This book endeavors to bring up to date the types of factors serving as sources of principles of physical education which were contained in a work by Jesse F. Williams (*The Principles of Physical Education.* Philadelphia: W. B. Saunders Co., 1927). As an interpretation of modern physical education in the United States, the book takes its place with that of Williams and with two other books recently published (Jackson R. Sharman, *Introduction to Physical Education.* New York: A. S. Barnes & Co., Inc., 1934; and Eugene W. Nixon and Frederick W. Cozens, *An Introduction to Physical Education.* Philadelphia: W. B. Saunders Co., 1934).

Modern Principles of Physical Education is intended as a textbook for advanced courses in the professional preparation of teachers of health and physical education. Its purpose is to acquaint the students with the scientific information and the philosophical thought needed as a basis for curriculum construction and for an intelligent understanding of the place of physical education in the general scheme of education, and the biological, sociological, psychological, philosophical, and democratic foundations on which physical education is based. The chapters dealing with the physical-education curriculum and with the principles

[1] Jackson R. Sharman, *Modern Principles of Physical Education.* New York: A. S. Barnes & Co., Inc., 1937. Pp. viii+208. $2.00.

underlying methods are especially good because they follow closely modern educational thought.

The book is clearly and interestingly written, and it is well organized from the standpoint of service as a textbook. The questions at the end of chapters are stimulating. The subject matter of the book is up to date but still falls somewhat short in making an adequate interpretation of recent social statistics and findings. It will, however, be accepted as a valuable aid in interpreting the complex and dynamic subject of physical education.

D. K. Brace

University of Texas

Two approaches to senior high school civics.—The titles of two new textbooks for high-school civics are unusually indicative of their emphasis. *Government in Action*[1] is organized for the most part around political processes, such as securing the consent of the governed, how governmental policies are made and carried out, and how governments promote the general welfare. *Realities of American Government*,[2] on the contrary, is organized in the traditional fashion, beginning with a brief history of our system of government and organizing the material about national, state, and local governments. It attempts to justify the word "realities" in its title by laying unusual stress on the newer interests of students of government, particularly pressure groups, recent trends, and the importance of administration. In these respects it is a decided improvement over many earlier textbooks. *Government in Action*, by its organization, guides learning toward the understanding of political processes in a much more direct fashion. Without attempting to evaluate the merits of the two organizations, one can safely predict that a course based on the traditionally organized book would give a better picture of the way in which American government is organized and that a course based on *Government in Action* will develop more adequate concepts of political processes and problems.

Government in Action also shows clear evidence of having grown out of schoolroom practice, partly because it is more richly supplied with learning activities but chiefly because these aids are of the kind that high-school teachers learn to use by constant trial and error. Moreover, each chapter is introduced with a few theme questions, and each unit is introduced with a presentation in the form of an exceedingly brief statement of the problem involved. Then, carrying the Morrison procedure further, an organization paper is asked for at the end of each unit. In contrast, the traditionally organized textbook presents a more limited and conservative group of study suggestions, including factual questions on the

[1] Robert E. Keohane, Mary Pieters Keohane, and Joseph D. McGoldrick, *Government in Action: A Study of Problems in American Democracy*. New York: Harcourt, Brace & Co., 1937. Pp. xvi+846. $1.84.

[2] Neal Doyle Houghton, *Realities of American Government*. New York: Macmillan Co., 1937. Pp. xx+790. $1.80.

text, specific page references for further reading in books of higher levels, and generous lists of "good books to read."

The illustrations selected for each book present a similar contrast. *Government in Action* is well supplied with pictures, cartoons, maps, and pictorial graphs. Most of the graphs have been made by Pictorial Statistics, Incorporated, and, unlike those in most recent textbooks, many of the graphs seem to have been drawn specifically for this book. On the whole, these are exceedingly valuable additions to the book. *Realities in American Government* stays rather close to the more traditional types of illustrations, although it has a large number of charts of types of government that are very helpful. In the selection of other illustrative materials, an attempt has been made in this book to find current materials, in the form of copies of bills recently presented in Congress or in legislatures, sample ballots, and quotations from direct experiences with practical politics. These should stimulate and add to the sense of reality that the book encourages.

As far as the details of the factual presentation are concerned, in both books can be found statements to which specialists will object. In the far more important matter of the accuracy of the general concepts that pupils will gain from reading the books, both rate very high indeed. A teacher's choice between them would have to be made primarily on the basis of his opinion of the relative value of the two types of organization. For the teacher who prefers the more traditional organization, *Realities of American Government* is a substantial presentation of the necessary content; the teacher who believes that the political-process approach more nearly achieves the objectives of the course will find *Government in Action* a fine basic textbook. Both books are valuable additions to the materials available for senior high school civics.

ELMER ELLIS

UNIVERSITY OF MISSOURI

High-school reading material.—Attention has been directed of late to the pressing need for adequate reading material adapted to high-school pupils. This need has been emphasized by the rapidly increasing enrolments of American high schools, now close to the seven-million mark. These millions include tens of thousands of pupils with educational ages and reading ability somewhat lower than were normal some years ago. Three books designed for varying grades of reading ability have recently appeared for the high-school level.

A high-school principal and the head of the department of English in a large city high school have combined in the preparation of a series of eighteen biographies published together under the title *Americans in Action*.[1] In the Preface the authors allude to the fact that secondary-school pupils frequently are not capable of achieving the competency in reading which is generally expected. They have, therefore, prepared a book to be used in improving the reading

[1] Max J. Herzberg and Leon Mones, *Americans in Action*. New York: D. Appleton-Century Co., Inc., 1937. Pp. xii+304 $1.00.

of high-school pupils of that type. The content is interesting to adults or to persons of the late adolescent period, but it is much easier to read than most books now in the hands of high-school pupils. The subjects of these biographical sketches are well chosen and include Americans distinguished in a number of lines. Industrialists like Henry Ford, labor leaders like Samuel Gompers, and social workers like Jane Addams, as well as artists, college presidents, politicians, inventors, musicians, and writers are found in the group. All the names in the list are of persons widely known and extensively discussed. The sketches are well written and interesting. Each chapter closes with questions and exercises demanding careful thought and discussion. An appendix includes a discussion of the nature of biographical writing, a seven-page list of biographies and of biographical source material, and a seven-page list of distinguished contemporaries under the headings of actors, artists, athletes, business leaders, engineers, inventors, and other occupational groups. This last material will be of value to pupils who are inspired to continue biographical study. The book is well prepared and is illustrated with many pen-and-ink sketches. An index is lacking.

Two teachers have combined to publish a reading book for high-school pupils entitled *Champions*.[1] As in the case of the book described above, it combines high interest level with low reading difficulty, being rated against the Gray-Leary formula as ninth-grade reading difficulty or lower. This book is composed of selections divided nearly equally between biographical and autobiographical sketches. The authors include many distinguished persons, such as Helen Hayes, Eddie Cantor, Paul de Kruif, Amelia Earhart, Edward Bok, and Sir Thomas Lipton. In the total of twenty-four biographies a wide range of occupational interests is included. Actors, doctors, nurses, athletes, wild-animal trainers, businessmen, artists, detectives, social workers, reporters, and circus performers are to be found in the list. Each article is prefaced by a one-page introduction by the authors of the book. At the end the authors have prepared thirteen pages of easy questions of a rather ordinary character. The twenty-four selections in this book seem to rate very highly in the element of interest. This book has an adequate index.

Houghton Mifflin Company have republished for school use a group of biographies by the distinguished author Gamaliel Bradford, entitled *The Quick and the Dead*.[2] This volume, edited by the chairman of the English department of a Brooklyn high school, is primarily designed for use in connection with English classes. It is valuable also for outside reading lists prepared by teachers of recent history. These biographies are, of course, extremely well written. The subjects are Theodore Roosevelt, Woodrow Wilson, Thomas A. Edison,

[1] *Champions*. Edited by Chester L. Persing and Bernice E. Leary. The Discovery Series, Book III. New York: Harcourt, Brace & Co., 1937. Pp. x+388. $1.00.

[2] Gamaliel Bradford, *The Quick and the Dead*. Edited by Roland Ketchum. Boston: Houghton Mifflin Co., 1937 (school edition). Pp. xviii+318. $1.16.

Henry Ford, Nikolay Lenin, Benito Mussolini, and Calvin Coolidge. The editor has prefaced each article with a one-page chronology of the life of the man. An appendix at the close of this book, covering no less than fifty-two pages, begins with a reading list giving additional biographies, which is followed by many pages of well-worked-out notes. Then are to be found questions and suggestions for further study and for discussion. At the end are general questions for review and brief bibliographical material to enable the pupil to read further concerning any of the persons described in the book. The Index is excellent. The material contained in this book is of a high order and is well adapted to the highest type of secondary-school pupil. The editor also has done an excellent job.

D. S. BRAINARD

STATE TEACHERS COLLEGE
ST. CLOUD, MINNESOTA

Several well-motivated reading books in French.—Four textbooks recently published for French courses offer the teacher a variety of new and interesting subject matter. One pamphlet edition,[1] the fourth of a series, contains four short stories by Maupassant, Daudet, Bazin, and Bordeaux. Approximately ten pages in length, each story can easily be included in a weekly lesson plan. The quick change in these short stories from narration to description to dialogue necessitates a frequent change in tense usage and results in a more complex literary style and form than was found in the earlier books of this series. The inclusion of a large number of new verbs affords an excellent verb drill. The vocabulary, on first occurrence in the text, is annotated and explained at the bottom of the page, unless cognate. This plan lessens the chore of translation. An added feature of the indexed vocabulary is the appearance of an asterisk before all new words in order that the reader may review, at the completion of the story, the items contributed to the general vocabulary of the series. The settings of these stories present sharp contrasts in French provincial characters.

Another book[2] equally suitable for second-year reading is the exciting adventure of an English boy traveling to France. Each chapter is short enough to be covered in a daily assignment and ends with such a dramatic situation that the reader can hardly leave the hero's fate unsolved. The sketches which begin each chapter will pique the reader's curiosity in the story to follow. The language is simple: only the most common idiomatic expressions are used, and the verb forms are limited to the present, the imperfect, and the past indefinite tenses. This pamphlet edition can be used in first-year classes without too much difficulty.

[1] The Heath-Chicago French Series: Book IV, *Les pauvres gens: Quatres contes par Maupassant, Daudet, Bazin, Bordeaux.* Retold and edited by Otto F. Bond. Boston: D. C. Heath & Co., 1937. Pp. iv+56. $0.28.

[2] Marc Ceppi, *L'Aventure de Ted Bopp.* Boston: D. C. Heath & Co. Pp. 62. $0.32.

The same author has recently published a group of short one-act plays.[1] Each contains a large number of characters, an entire class being thus enabled to participate in the play. Humor and action are well represented in the many charming sketches. Because of the extensive vocabulary this little collection should be reserved for third-year pupils.

A much longer play[2] for advanced classes includes an applied grammar and a complete list of notes and can be used as a single textbook. It is a delightful historical comedy of the adventures of a young girl during that dramatic phase of French history, the fall of Napoleon and the return of the Bourbons. Of literary and historical worth, it is equally valuable for its conversational and idiomatic vocabulary based on current usage. For each scene of the play will be found the following exercises: (1) a résumé, written in the simplest possible language, to be used for dictation and recitation; (2) a set of questions covering the entire scene; (3) an explanation of the most important idiomatic expressions; and (4) an excellent grammatical review, composed of various exercises based on the most important rules of grammar as well as the colloquial phrases of the play. These grammatical exercises are varied according to the most modern educational methods. A student who has been drilled in these exercises will have gone a long way toward mastering French grammar, as well as having acquired a conversational fluency in the language.

FRANCIS F. POWERS

UNIVERSITY OF WASHINGTON

Elementary science experiments for the home.—For persons who are studying science at home and for teachers of elementary courses in science, a manual of simple home experiments or "experiences" is now available.[3] Instead of the traditional "one hundred and one," the author has included two hundred problems in his collection. These may be roughly classified as follows: atmospheric pressure and mechanics of gases, 60; mechanics of liquids, surface tension, and change of state, 80; inertia, combination of forces, and equilibrium, 30; science toys, 13; and heat, 17.

The experiments are presented without explanatory or introductory material except for a slight amount of explanation at the end of the book. Each experiment is illustrated by one or more well-executed line drawings, and the directions for manipulating the apparatus are briefly and clearly stated. Each experiment occupies a page by itself. Milk bottles, drinking glasses, fruit jars,

[1] Marc Ceppi, *Twelve French Plays for Schools: A Conversational Reader*. Boston: D. C. Heath & Co. Pp. 128. $0.48.

[2] André de Lorde and Jean Marsèle, *Napoléonette: Piece en cinq actes et un prologue (d'après le célèbre roman de Gyp)*. Edited by Edouard Sonet and Edward F. Meylan. Boston: Houghton Mifflin Co., 1937. Pp. viii+216. $0.96.

[3] Carleton John Lynde, *Science Experiences with Home Equipment*. Scranton, Pennsylvania: International Textbook Co., 1937. Pp. xiv+226. $1.25.

matches, and squares and strips of cardboard and paper are among the more common implements employed.

It is doubtful whether this manual can be used as a textbook with formal classes in the traditional school. However, in schools that have developed elementary science courses which make some use of laboratory methods, it should prove valuable. The experiments are simple enough to be performed during a short class period by a normal elementary-school pupil. Teachers of general science, especially those in rural and small village schools with little factory-made apparatus, should find the book of great value. It will not meet all their needs for demonstration purposes, however, for its scope is too narrowly restricted to the limits of physical science. Teachers of physics in large high schools may find it worth while as a handbook of experiments, for often a simple and commonplace demonstration illustrates a phenomenon better than a more complicated experiment. A copy or two freely available to pupils in the classroom or laboratory may motivate a number of pupils to attempt some of the experiments and may be provocative of discussion, thinking, and learning. Perhaps one of the greatest uses will be as a guide to be put in the hands of young pupils who are interested in science and who want to do experiments at home. The reviewer can remember that, when he was a boy at the sixth-, seventh-, or eighth-grade level, such a book would have been about the best birthday gift imaginable.

R. J. BRADLEY

MACALESTER COLLEGE
ST. PAUL, MINNESOTA

CURRENT PUBLICATIONS RECEIVED

GENERAL EDUCATIONAL METHOD, HISTORY, THEORY AND PRACTICE

DEWEY, JOHN. *Experience and Education.* The Kappa Delta Pi Lecture Series. New York: Macmillan Co., 1938. Pp. xii+116. $1.25.

Educational Freedom and Democracy. Second Yearbook of the John Dewey Society. Edited by Harold B. Alberty and Boyd H. Bode. New York: D. Appleton–Century Co., Inc., 1938. Pp. viii+292. $2.25.

ELYOT, SIR THOMAS. *The Gouernour.* Everyman's Library, No. 227. New York: E. P. Dutton & Co., Inc., 1937. Pp. xxxii+308.

FORD, FREDERICK ARTHUR. *The Instructional Program: Its Organization and Administration.* New York: Prentice-Hall, Inc., 1938. Pp. xvi+458. $2.75.

Go Forth and Teach: An Oration Delivered before the Authorities of the City of Boston, July 14, 1842, by Horace Mann. Also, Other Materials Relating to His Life. Centennial Edition. Washington: Committee on the Horace Mann Centennial of the National Education Association, 1937. Pp. viii+148. $0.50.

HOCKETT, JOHN A., and JACOBSEN, E. W. *Modern Practices in the Elementary School.* Boston: Ginn & Co., 1938. Pp. vi+346. $2.60.

KEYS, NOEL. *The Underage Student in High School and College: Educational and Social Adjustments.* University of California Publications in Education, Vol. VII, No. 3. Berkeley, California: University of California Press, 1938. Pp. viii+147–272. $1.25.

La Coordination des enseignements du second degré: Enquête internationale. Paris, France: Société des Nations, Institut International de Coopération Intellectuelle (2, Rue de Montpensier, Palais-Royal), 1938. Pp. 280.

RACE, HENRIETTA V. *The Psychology of Learning through Experience.* Boston: Ginn & Co., 1938. Pp. viii+384. $2.00.

REED, HOMER B. *Psychology of Elementary School Subjects.* Boston: Ginn & Co., 1938 (revised). Pp. xii+582. $2.40.

RELLER, THEODORE LEE. *Community Planning for Youth.* Philadelphia: Public Education and Child Labor Association of Pennsylvania (1505 Race Street), 1938. Pp. viii+110. $1.00.

Selected References in Education, 1937. Reprinted from the *School Review* and the *Elementary School Journal* for January to December, 1937. Supplementary Educational Monographs, No. 46. Chicago: Department of Education, University of Chicago, 1938. Pp. x+224. $0.90.

SIMON, HENRY W. *Preface to Teaching.* New York: Oxford University Press, 1938. Pp. 98. $1.50.

STUERM, FRANCIS H. *Training in Democracy: The New Schools of Czechoslovakia.* Published under the Auspices of the Progressive Education Association. New York: Inor Publishing Co., 1938. Pp. xiv+256. $2.50.

WALWORTH, ARTHUR. *School Histories at War: A Study of the Treatment of Our Wars in the Secondary School History Books of the United States and in Those of Its Former Enemies.* Cambridge, Massachusetts: Harvard University Press, 1938. Pp. xx+92. $1.25.

BOOKS PRIMARILY FOR HIGH-SCHOOL TEACHERS AND PUPILS

BENEDICT, RALPH C., KNOX, WARREN W., and STONE, GEORGE K. *High School Biology.* New York: Macmillan Co., 1938. Pp. xii+724. $2.00.

BENNETT, MARGARET E., and HAND, HAROLD C. *Designs for Personality.* New York: McGraw-Hill Book Co., Inc., 1938. Pp. xiv+222. $1.36.

BROWN, ZAIDEE. "Some Library Aids for Teachers: Intended Especially for Senior and Graduate Students." Upper Montclair, New Jersey: New Jersey State Teachers College Library, 1938. Pp. 8 (mimeographed). Distributed by Vertical File Service, H. W. Wilson Co., New York, New York. $0.10.

Civics Afloat: A Report on the Use of Municipal Ferryboats in the Study of Civics. New York: Board of Education of the City of New York, 1938. Pp. 38.

CRAIG, EDNA, and STONE, GEORGE K. *Guide to High School Biology.* New York: Macmillan Co., 1938. Pp. 146+tests. $0.96.

DE QUINCEY, THOMAS. *Joan of Arc* and *The English Mail Coach*. Edited for Catholic school use by Alfred A. Purcell. New York: Longmans, Green & Co., 1938. Pp. lxxx+90. $0.60.

DOBBS, ELLA VICTORIA. *First Steps in Weaving*. New York: Macmillan Co., 1938. Pp. x+86. $1.00.

FAULKNER, HAROLD UNDERWOOD, and KEPNER, TYLER. *America: Its History and People*. A Unit Organization. New York: Harper & Bros., 1938 (revised). Pp. xiv+866. $2.20.

GUMMERE, JOHN FLAGG. *Comprehension Readings for Second-Year Latin*. Chicago: Scott, Foresman & Co., 1938. Pp. iv+60. $0.28.

Macmillan's Modern Dictionary. Compiled and edited under the supervision of Bruce Overton. New York: Macmillan Co., 1938. Pp. xiv+1466. $3.00.

NICHOLS, ROY F., BAGLEY, WILLIAM C., and BEARD, CHARLES A. *America Today*. New York: Macmillan Co., 1938. Pp. viii+410+lvi. $1.40.

Our Own Book Reviews: 102 Children's Books for 1937 Reviewed by Boys and Girls. Association for Arts in Childhood Bulletin No. 2. New York: Association for Arts in Childhood (70 Fifth Avenue), 1937. Pp. 24. $0.20.

PATTERSON, S. HOWARD; LITTLE, A. W. SELWYN; and BURCH, HENRY REED. *Problems in American Democracy*. New York: Macmillan Co., 1938. Pp. x+726. $1.88.

PIGMAN, AUGUSTUS. *A Story of Water*. New York: D. Appleton–Century Co., Inc., 1938. Pp. xii+152. $1.50.

UHL, WILLIS L., and POWERS, FRANCIS F. *Personal and Social Adjustment: A Text in Social Science*. New York: Macmillan Co., 1938. Pp. xii+476. $1.40.

Webster's Students Dictionary for Upper School Levels. Chicago: American Book Co., 1938. Pp. xxii+1002. $2.48.

WORRALL, A. J. *English Idioms for Foreign Students*. New York: Longmans, Green & Co., 1937 (revised). Pp. 90. $0.85.

PUBLICATIONS IN PAMPHLET FORM

THE ADVISORY COMMITTEE ON EDUCATION. *Report of the Committee*. Washington: United States Government Printing Office, 1938. Pp. x+244. $0.35 (paper cover).

ARTZ, FREDERICK B. *Les Débuts de l'éducation technique en France (1500–1700)*. Extrait de la *Revue d'Histoire Moderne* (September–December, 1937.) Paris, France: Librairie Félix Alcan (108, Boulevard Saint-Germain), 1938. Pp. 56.

BUTLER, NICHOLAS MURRAY. *Annual Report for 1937 of the Division of Intercourse and Education*. New York: Carnegie Endowment for International Peace. Pp. 72.

COMMITTEE ON PLANNING OF THE DEPARTMENT OF SECONDARY-SCHOOL PRINCIPALS OF THE NATIONAL EDUCATION ASSOCIATION. *Talking it Through: A*

Manual for Discussion Groups. Chicago: Discussion-Group Project, Department of Secondary-School Principals (5835 Kimbark Avenue), 1938. Pp. 70.

GLENN, EARL R., and WELTON, LOUIS E. Glenn-Welton Chemistry Achievement Test. Yonkers-on-Hudson, New York: World Book Co., 1938.

Gold Star List of American Fiction, 1823–1938: Five Hundred and Ninety Titles Classified by Subject, with Notes. Syracuse, New York: Syracuse Public Library, 1938 (nineteenth edition). Pp. 34. $0.25.

Guidance Service Standards for Secondary Schools. Point Pleasant, New Jersey: New Jersey Secondary School Teachers' Association (% Laura J. Doughty, Corresponding Secretary), 1937. Pp. viii+50.

HAGEN, HENRY H., and SAMUELSON, NORMAN L. "Every Teacher a Personnel Worker." Chicago: Crane Technical High School (2245 Jackson Boulevard), 1938. Pp. 44 (mimeographed).

How We Spend Our Money. Public Affairs Pamphlets, No. 18. New York: Public Affairs Committee, Inc. (8 West Fortieth Street), 1938. $0.10.

Progressive Education Advances: Report on a Program to Educate American Youth for Present-Day Living. A Publication of the Progressive Education Association. New York: D. Appleton–Century Co., Inc., 1938. Pp. 70. $0.25.

Psychology and Methods in the High School and College. Review of Educational Research, Vol. VIII, No. 1. Washington: American Educational Research Association of the National Education Association, 1938. Pp. 102.

Roslyn Elementary Schools: Report of a Study of the Instructional Program. Made under the direction of the Commissioner of Education at the request of the Board of Education of Roslyn. Roslyn, New York: Board of Education, Union Free School District No. 3, Town of North Hempstead, 1938. Pp. 52. $0.35.

Why Women Work: Based on a Study Made by the National Federation of Business and Professional Women's Club, Inc. Public Affairs Pamphlets, No. 17. New York: Public Affairs Committee, Inc. (8 West Fortieth Street), 1938. Pp. 32.

WOELLNER, ROBERT CARLTON, and WOOD, M. AURILLA. *Requirements for Teaching Certificates.* Chicago: University of Chicago Press, 1938 (third edition).